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Educational News and Editorial Comment

AMERICAN EDUCATION WEEK

Since its beginning in 1921 American Education Week has had as its purpose the interpretation of the aims, achievements, and needs of the schools to the American public. It is a recognition of the fact that in the United States the school is very largely a community affair. In the long run, the successful operation of the schools of any community depends in no small measure on the intelligent understanding by the people of the community of the purpose which the schools seek to accomplish and of the means employed in the accomplishment of those purposes. School superintendents and principals will do well to use every means available to bring about such an intelligent understanding. American Education Week, to be held this year November 9–15, is one such opportunity.

The National Education Association and the Department of Superintendence have issued a bulletin entitled *Things To Do:* A Handbook for the Schools and the Public on the Observance of American Education Week. The book contains a great deal of factual information concerning the schools, suggestions for programs, and many references to books and periodicals which should prove

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helpful in the planning of programs. The bulletin may be secured from the National Education Association, 1201 Sixteenth Street, Northwest, Washington, D.C. The price is one dollar.

RECENT TRENDS IN SCHOOL FINANCE

W. S. Deffenbaugh and Timon Covert, in chapter i of the *Biennial Survey of Education in the United States, 1928–1930* (advance pages issued as United States Office of Education Bulletin Number 20, 1931), give some significant information with respect to recent changes in the field of school finance. The following table indicates something of the increase of school costs during the period since 1870.

INCREASING ATTENDANCE AND SCHOOL COSTS IN THE UNITED STATES, 1870–1930

Year	Millions of Children in Average Attendance	Millions of Dollars Expended	Average Annual Expenditure per Pupil
1870	4	63	$ 15
1880	6	78	12
1890	8	140	17
1900	10	214	20
1910	12	426	33
1915	14	605	40
1920	16	1,036	64
1925	19	1,946	98
1930	21*	2,289*	99
Percentage of increase, 1870–1930	425	3,533	560

* Estimated.

Although many of the states have been steadily increasing the amount of the state school fund, the percentage of the total cost of education borne by the state has declined during the past decade. The following statement quoted from the bulletin indicates in a general way what the tendency has been.

> Failure on the part of law-makers to make adequate provision to meet the mounting costs of the educational program results in throwing a constantly heavier burden on local school taxing units. Public schools of seven states received 40 per cent or more of their revenue in 1917–18 from state sources, whereas this was true in only two states in 1927–28; those of eleven states received 30 per cent or more in 1917–18, but the schools in only nine states received as

much in 1927–28; those of twenty-three states received 20 per cent or more in 1917–18 and of twenty-one states in 1927–28; those of thirty-four states received 10 per cent or more in 1917–18 and of thirty-five states in 1927–28. Some state funds were provided for the public schools in all states both years. The median percentage in 1917–18 fell between 19.1 and 17.7, while in 1927–28 it fell between 16.9 and 16.2. . . . .

The general trend downward in percentage of total public-school expenditure derived from state sources continued during the biennium 1928–30 in most states, but in a few the percentage increased.

During the past decade it has generally come to be recognized that tax reform is imperative. The state, if it is to relieve the local districts of the brunt of the burden, must discover other forms of taxation than the general property tax. Consequently, there has been a definite tendency to make use of taxes of new types. Among these the following are the most significant: business-license, motor-vehicle, motor-fuel, special property, income, and inheritance taxes. The table given above shows the relative importance of the various sources of state revenue for 1919 and for 1928.

PERCENTAGE OF STATE REVENUE RECEIPTS RECEIVED FROM VARIOUS SOURCES IN ALL STATES IN 1919 AND 1928

Source	1919	1928
General property tax	30.2	25.1
Business license	10.8	14.4*
Motor-vehicle license tax	10.2	13.6
Motor-fuel tax	.....	12.5
Earnings of general departments	12.3	7.4
Inheritance tax	5.8	6.5
Special property tax†	8.6	5.4
Income tax	0.7	2.9
Earnings of public-service enterprises‡	0.4	0.7
All other revenue	21.0	11.5§

* Since data for 1928 were not available, data for 1927 were used.
† Special property tax includes tax on corporation, bank, and insurance companies.
‡ Revenue derived from toll bridges, state printing plants, etc.
§ Estimated.

Although the data in the foregoing paragraph and table refer to state taxes for all purposes, they have special educational significance because the state school revenue is largely derived from legislative appropriations from the general state fund. For example, in 1927–28, for the country as a whole less than one-fourth of the total

state school revenues was derived from taxes levied specifically for education. The following table indicates the various sources of the state school revenue for 1927–28.

PERCENTAGE ANALYSIS OF AMOUNT AND SOURCE OF STATE SCHOOL REVENUES IN ALL STATES IN 1927–28

Source	Per Cent
Total public-school revenue derived from state source	16.4
State school revenue derived from:	
Income from permanent school fund	6.8
Appropriation from general state fund	67.9
Special tax for education	24.5
Other sources	0.7

SCHOOL ATTENDANCE AND UNEMPLOYMENT

The President's Organization on Unemployment Relief is attempting to co-ordinate the educational agencies of the country in a movement to encourage and assist young people to continue their education. A number of national organizations are co-operating with the President's committee in developing plans for enlisting the educational resources of the country. Among these co-operating organizations are the following: Children's Bureau, National Education Association, American Federation of Labor, Federal Board for Vocational Education, National Congress of Parents and Teachers, National Catholic Welfare Conference, United States Department of Labor, United States Office of Education, and National League of Women Voters. The committee, after a number of conferences with the co-operating organizations, has formulated the following objectives, which it hopes the educational agencies of the country will assist in carrying into effect.

1. To take advantage of the present period of unemployment and part-time employment by encouraging the greatest possible utilization of opportunities for preparation for future positions and for the enrichment of American life.

2. To keep all children under sixteen years of age in school in this time of surplus labor and increasing demands of industry for skill and judgment.

3. To encourage undergraduates and members of 1931 high-school and college-graduating classes to remain in school.

4. To urge that increasing effort be made by schools and institutions of learning for guidance programs that will direct young people not only into fields of usefulness but into fields where their services will be in demand.

5. To encourage school authorities and legislative bodies to maintain adequate school facilities in the face of the present emergency.

6. To co-ordinate the efforts of organizations which have a contribution to make toward attaining these ends.

School officials and teachers throughout the country will confer a distinct benefit not only on individuals but on society in general by encouraging and assisting young people to continue in school. It is impossible to determine precisely the effect of increased school attendance in recent years on the economic development of the country, but that the effect has been profound is perfectly patent. There are in school today four or five million children who forty years ago would have been, for the most part, competitors in the labor market. Next to the restriction of immigration, perhaps no other factor has been so influential in preventing the growth of a large labor reserve as the increased enrolment in high schools and colleges. Encouragement of school attendance at this time is clearly sound economic and social policy.

In order to facilitate the securing of loans by students in need, the President's Organization on Unemployment Relief has published the following list of organizations to which applications for assistance may be made. A more complete list may be found in United States Office of Education Bulletin Number 2, 1929.

General Funds for Men and Women Students in the United States

F. J. Barrett Foundation, 1600 Davison Avenue, East Detroit, Michigan, established a student loan fund of $100,000 in 1926. Juniors and Seniors in accepted colleges are eligible for loans when they pass as to character and probability of paying as agreed; examinations, interviews, and recommendations are required.

Crawford Student Loan Fund, care of the United States National Bank, Portland, Oregon, was established in 1924 with $250,000. Any student properly recommended is eligible, except those preparing for a professional career such as theology, medicine, law, or music.

Benevolent and Protective Order of Elks, Grand Lodge, 2750 Lakeview Avenue, Chicago, Illinois. The Elks National Foundation Commission keeps in touch with the respective state associations on activities of this nature but makes no loans. Loans available through local lodges.

Massachusetts State Grange, care of William M. Howard, North Easton, Massachusetts; New York State Grange, care of Fred J. Freestone, Interlaken,

New York, and other state granges maintain student loan funds for members.

Harmon Foundation (Inc.), division of student loans, 140 Nassau Street, New York City, established in 1922 a fund of $150,000 to be lent to students in affiliated colleges. To be eligible, a student must be of Junior standing or above, working toward a Bachelor's or higher degree with satisfactory character references and approved budget. A Harmon College co-operation loan fund is also established to aid students of Sophomore grade and above. A special student loan fund aids Juniors and Seniors in unaffiliated colleges. An average of 350 loans in varying amounts from $150 to $300 are made annually at 6 per cent interest.

Hebrew Free Loan Society, 108 Second Avenue, New York City, lends to students, irrespective of nationality, religion, or race, without interest if credentials are satisfactory.

Kiwanis International, 520 North Michigan Avenue, Chicago, Illinois, representing 1,750 Kiwanis clubs in the United States, reports that many of the local clubs lend money to local students who are worthy.

Knights Templar Educational Foundation established an educational loan fund of $1,560,000 in 1922 to aid Juniors and Seniors of good character and application upon recommendation of the college and home community. The fund receives an annual addition of about $500,000. Applications for loans should be made to the grand recorder of the Grand Commandery, Knights Templar Educational Foundation, in the respective states.

Lions International, 332 South Michigan Avenue, Chicago, Illinois, represents local Lions clubs throughout the United States. Many of these local clubs lend money to local men and women for the purpose of securing a college education.

National Congress of Parents and Teachers. Application should be made to state or local organization. Information may be obtained from national offices at 1201 Sixteenth Street, Northwest, Washington, D.C.

Rotary International, 211 West Wacker Drive, Chicago, Illinois, reports that many of the local clubs in cities of the United States have student loan funds. A booklet on student loan funds is published.

The Henry Strong Educational Foundation Loan, administered by the Northern Trust Company, 50 South La Salle Street, Chicago, Illinois, was established in 1911. Men and women, preferably Juniors and Seniors and under twenty-five years of age who are worthy and in need of assistance, are eligible. (Note: No additional applicants can be considered at the present time, the Foundation reports.)

Young Men's Christian Association. Many local branches of the Young Men's Christian Association lend money to local young men. Inquire of the president or secretary of the local Young Men's Christian Association or 347 Madison Avenue, New York City.

For Women

American Association of University Women, National Headquarters, 1634 I Street, Northwest, Washington, D.C., reports that many of the local branches maintain funds to be lent to worthy local girls.

Business and Professional Women's Clubs, National Federation, 1819 Broadway, New York City, report that many local clubs maintain loan funds for women. Information as to local addresses may be obtained from the National Federation.

Daughters of the American Revolution, National Chairman, Miss Marjorie Spaulding, 366 I Street, Phillipsburg, Kansas, has loan funds in many states. Each state has its own chairman and absolute management of its fund.

National Association Scholarship Fund for colored women, care of Hallie Q. Brown, Wilberforce, Ohio.

National Pan Hellenic Congress, care of Miss Louise Leonard, 150 Claremont Avenue, New York City, administers certain sorority funds for college women.

P.E.O. Sisterhood. Supreme Chapter of P.E.O., Mount Pleasant, Iowa, lends to girls over eighteen years of age who are graduates of high school, locally recommended, indorsed by a P.E.O. chapter, and having a health certificate.

State federations of women's clubs or local federations in most states provide student loan funds. Loans are made preferably to girls who are Juniors and Seniors in college and who are residents of the state in which the loans are available and sometimes to girls who are Freshmen or Sophomores in college. Application for loans should be addressed to the loan scholarship fund committee in each state, or information will be gladly given by the General Federation of Women's Clubs, 1734 N Street, Washington, D.C.

PUBLIC EDUCATION IN THE SPANISH REPUBLIC

The study of the educational consequences of political revolutions is extremely fascinating. It reveals as nothing else does, perhaps, the intimate relation of the schools to the social order. A political revolution, successful or otherwise, is almost certain to result in significant educational changes. If the revolution fails, as, for example, the Revolution of 1848 in Prussia, the conservative forces quite without exception reorganize education in such a way as to make the schools instruments of social and political quietism. If the revolutionists succeed, they are equally certain to use the schools as a medium of socializing the individual in terms of the ideals and purposes of the new social order.

Spain is no exception to the general rule. The new republic is faced with the necessity of establishing a system of public schools. The task will not be easy. For many years Spain has had the high-

est percentage of illiteracy of any country in Western Europe. Moreover, such schools as exist have long been dominated by the Clericals. The influence of the Clericals in Spain is very great, and it seems likely that the full weight of that influence will be thrown against the establishment of a system of public schools. Republican leaders, however, seem to be fully aware of the necessity of establishing a public-school system and are vigorously attacking the problem. The following statement published in the *Christian Science Monitor* gives some insight into the problems confronting the new government.

It is becoming obvious that Roman Catholicism, which has always been regarded in Spain as one of its chief strongholds, will not permit secular control to be established in the schools without a struggle in the press and Parliament. In the elections the Roman Catholic forces did badly. The *Action nacional* obtained results which were found especially disappointing. Yet in some northern constituencies, feeling for the church was strong, and even half a dozen priests were elected to the Cortes.

Republicanism is not necessarily opposed to the Roman Catholic Church, but it is opposed to giving a privileged position to that church. President Zamora himself is a practicing Roman Catholic, whose attendance at mass after the proclamation of the Republic was indeed criticized. But the essence of republicanism is that the church must be divorced from the state and that there must be only secular control in the schools. There must be toleration for all beliefs, but domination by none.

Reports from Rome recently showed that a consistory was held, and the Pope conferred with the College of Cardinals on highly important topics. The relations with the Italian state were among them, but still graver, from the viewpoint of the Curia, is the situation in Spain. Cardinal Segura, archbishop of Toledo and primate of Spain, is now in exile in France as *persona non grata*, but he keeps in touch with the Spanish clergy. Cardinal Vidal y Barraquer, archbishop of Tarragona, has visited Rome. It is probable a large section of the clergy has sincerely rallied to the Republic, but there are changes in regard to the schools, in regard to religious festivities, and in regard to the status of the Jesuits that cannot lightly be accepted by ecclesiastical authorities.

El debate, which is an ably conducted Roman Catholic organ, is perpetually engaged in "pin-pricking" the government. It was especially severe because the Republic did not this year finance the religious fêtes. *Crisol*, which is the best written Republican organ, vigorously justifies this break with tradition and affirms that in these matters the Republic, unlike the monarchy, must behave with strict neutrality. "Liberty and conscience," it says, "forbid us from combating the convictions of Roman Catholics, but it also prevents us from extend-

ing favors to Roman Catholicism." It shows that the lay state does not stand for irreligion, but it declines to admit that religion and Roman Catholicism are synonymous, and it accords equal facilities to Protestantism.

Señor Marcelino Domingo, minister of education, has decreed that religious liberty, which is one of the vital tenets of republicanism, shall prevail in the schools. Children in state-financed schools shall no longer be obliged to take religious instruction. Should their parents desire them to have it, they may make special request, which will be fulfilled provided the teacher chooses to give such instruction, or a priest volunteers his services without pay, at hours to be fixed in agreement with the teacher.

"One of the postulates of the Republic," Señor Domingo says, "is religious freedom, and Spain now achieves a moral and civil level with other European democracies and those of America. Both the child and teacher must have full liberty. The Provisional Government would not be true to its ideals if it did not accomplish its duty in this respect. The Constituent Cortes will in due course arrive at decisions regarding the nature of education, but in the meantime Spain ceases to be an exception, by decreeing a secular school."

Professor Miguel de Unamuno, rector of Salamanca University, who was made president superior of the Council of Public Instruction, is naturally in complete accord, and students in various parts of the country have passed resolutions demanding establishment of secular schools. In the constitution now before the Cortes, there are special articles not only relating to the relations of church and state but to conditions of instruction. They are to come up for discussion, together with legislative measures in conformity with constitutional stipulations, and on these articles and laws the fight will be waged.

Though generally convinced by the Republican expression of confidence in Señor Domingo, he was rebuked the other day by one deputy because he was not taking more vigorous action in suppressing Roman Catholic control in existing schools and giving greater facilities to secular teachers who for many years have had to endure persecution. Yet it is certain Señor Domingo is proceeding as quickly as practical in relaxing the grip that has been imposed so long. It is not an easy task to destroy this control. Spain needs schools—modern and secular schools—but it cannot afford to surrender those which it possesses.

Señor Domingo's program is to form 27,000 schools. He hopes to add 7,000 this year. It is not only the countryside but towns which lack schools. Madrid has just set aside more than $1,000,000 to supply and equip elementary schools in the capital, and throughout the country this aim of abolishing illiteracy is being steadily pursued.

Whether it is a coincidence or a consequence, it is a fact that Spain, hitherto dominated by the Clericals, is the most illiterate country in Western Europe. Señor Domingo, now in charge of education, declares his object is to enable every Spaniard to read, for reading is the beginning of knowledge and culture. He himself comes from humble parentage, and veritable sacrifices had to be made to enable him to pass through normal schools. It is with absolute convic-

tion that he asserts that the first necessity of Spain is schools which shall be free, obligatory, and under secular, not priestly, control.

Against his determination, and that of the Republican government, the threatened offensive in the press and Parliament cannot possibly make successful headway.

AUTHORITY OF THE LEGISLATURE TO REQUIRE SCHOOL DISTRICTS TO PROVIDE INSTRUCTION FOR NON-RESIDENT PUPILS

The constitutionality of legislation providing that pupils living in one school district may attend school in another district has been attacked in a number of states. The most recent case in point has been decided by the Supreme Court of Texas.[1] A statute of that state provided that a pupil in whose district there was no high school might attend some high school outside the district. The home district was to pay the tuition of the non-resident pupil. On this point the statute read: "The rate of tuition charged said pupil shall be the actual cost of teaching service, based upon the average monthly enrolment in the high school attended, exclusive of all other current or fixed charges, not to exceed $7.50 per month."[2] The cost of high-school instruction in the Dallas high schools was between twelve and thirteen dollars per month for each pupil in attendance. The Court of Civil Appeals held that the statute violated a provision of the state constitution which required uniformity of taxation. Moreover, it violated the Fourteenth Amendment in that it deprived the taxpayers of the Dallas school district of property without due process of law.[3] The opinion of the lower court has recently been confirmed by the Supreme Court. The following excerpt is quoted from the high court's decision.

The record in this case discloses that the city of Dallas has outstanding school bonds in the amount of $7,104,650, the proceeds of which were expended in providing building sites, buildings, and equipment for the public schools of the city.

The constitutional and statutory provisions under which the funds referred to above and under which sites have been obtained and school buildings erected during the entire history of our public schools are capable of no other construction than that these grounds so purchased and buildings so erected, though purchased and erected in view of and as a part of the method provided by the legis-

[1] *Love* v. *City of Dallas*, 40 S. W. (2d) 20.

[2] *Acts 41st Legislature* (1929), First Called Session, chap. 2, sec. 1.

[3] *City of Dallas* v. *Love*, 23 S. W. (2d) 431.

lature in its effort to establish and make suitable provision for the support and maintenance of an efficient system of free schools, were nevertheless so purchased and so erected for the benefit of the immediate community, district, or city in which they were located.

Section 3, art. 7, of the Constitution since first amended in 1883 has provided that the local taxes may be "levied and collected within such school districts for the further maintenance of public free schools and the erection of school buildings therein. . . . ."

In view of the history of the subject and the statutory and constitutional provisions referred to above, it is plain, we think, that the property and funds of the public schools are held in trust by the city, district, county, or other statutory agency, to be used for the benefit of the school children of the community or district in which the properties exist, or to which the school funds have been allocated. We think these properties and funds are so plainly and clearly impressed with a trust in favor of the local public schools of the city or district that they are within the protective claims of both the state and federal Constitutions, and that the legislature is without power to devote them to any other purpose or to the use of any other beneficiary or beneficiaries. . . . .

On the whole, we believe there can be no doubt that the school districts and cities having charge of their schools, such as the city of Dallas, as trustees for their inhabitants, have a vested right in the lands, buildings, and other properties of their schools; that they have a similar vested right in their public-school funds from every source, including those derived from local taxation, county school funds, and apportionments from the state available school fund. Public schools, however, are in a general sense state schools, and subject to reasonable regulation. 24 R.C.L. p. 558, §§ 2, 3; *Webb County* v. *Board of School Trustees*, 95 Tex. 131, 65 S.W. 878. For more than fifty years statutes have been in effect permitting transfers from one school district to another, and some consideration must be given to the construction of the Constitution which the enactment of these statutes implies. Since the Constitution does not permit the taxation of the people of a school district for the support of that district, except upon a vote of the people of the district, it is not debatable that the legislature cannot compel one district to use its funds and properties for the education of scholastics from another district, without just compensation. However, in view of the long operation of the transfer statutes, we believe that where a school district has facilities and teachers in excess of those necessary for its own scholastics, the state has the power to require it to accept transfers from another district, but only upon the payment of reasonable compensation therefor. Authorities *supra: Irvin* v. *Gregory*, 86 Ga. 605, 13 S.E. 120, and other cases cited in the opinion of the Court of Civil Appeals; *Slocomb* v. *Cameron*, etc., Dist., 116 Tex. 288, 288 S.W. 1064. The legislature, however, is without power to compel any district to provide additional facilities, teachers, etc., for the education of scholastics from another district. . . . .

We think, however, in view of the construction we have given the act, that is, that it applies only to pupils subject to the transfer statutes, its validity may be sustained to the extent of permitting it to apply to those districts whose trustees have decided that the acceptance of non-resident scholastics at a rate not in excess of the statutory amount will not be a detriment and may be of advantage to their districts and compensatory for the facilities and services rendered. In other words, under our interpretation of the act, in connection with the transfer statutes, a sound discretion is left to the local school boards to determine whether or not, in view of all the circumstances surrounding their districts, the admission of non-resident scholastics will be prejudicial to the scholastics of their districts, and whether or not the statutory fee would be compensatory. The discretion to be exercised by the local boards is quite similar to that which the statute has always permitted them to exercise with reference to the admission of "pupils over and under scholastic age, either in or out of the district" into their schools. The control of our public schools has always been vested in local boards, and at no time have they had the right to admit pupils who pay tuition, when such admission would be prejudicial to the free school pupils of their districts. R.S. 1879, art. 3757; R.S. 1895, art. 3960; R.S. 1911, art. 2902; R.S. 1925, art. 2904. The purpose of these statutes was not only to fix a sound public policy, but to make certain that the free school funds and properties would be devoted solely to the education of scholastics entitled thereto within the district or city. This reason, the basis of those statutes, makes it necessary for the local trustees to exercise a similar authority in the admission or rejection of non-resident scholastics who seek admission by transfer under the act before us. This discretion to be exercised by the local boards will not be disturbed by the courts, except in cases of manifest abuse. . . . .

Although some of the reasoning of the Texas court is undoubtedly subject to criticism, its general conclusion seems to be supported by the weight of judicial authority. The same general position has been taken by the Supreme Court of Nebraska, by the Court of Appeals of Kentucky, and by the Supreme Court of North Dakota.[1] In Indiana and Tennessee, on the other hand, the courts have taken a contrary position.[2] The reasoning underlying the decisions in these states is that, education being a public and not a local function, a school district may be required to contribute to the education of children who live without its corporate limits. In order to maintain an efficient school system, it may be necessary, it is said, to apply funds raised in one district to the schooling of children who live in

[1] *High School District No. 137* v. *Lancaster County*, 60 Neb. 147; *Town of Belle Point* v. *Pence*, 17 S.W. 197; *Todd* v. *Board of Education*, 54 N.D. 235.

[2] *Edwards* v. *State*, 143 Ind. 84; *Edmonson* v. *Board of Education*, 108 Tenn. 557.

another. Thus it was said by the Supreme Court of Indiana in the case already cited, which was very similar to the Texas case:

> The school system is a state system, established in compliance with the requirements of . . . . the constitution . . . . which makes it the duty of the legislature "to provide for a general and uniform system of common schools, where tuition shall be without charge and equally open to all." . . . .
>
> It is not material, therefore, whether or not the school city received as much or more money on account of said transfer from Pike Creek township than the expenses per capita of the pupils transferred from the township. The question of profit or loss has nothing whatever to do with the question or its determination by the school officers or the courts.

PREPARATION AND CERTIFICATION OF ELEMENTARY-SCHOOL PRINCIPALS IN NEW YORK

The time was when a certificate authorized a teacher to teach almost any subject at almost any level or to fill administrative positions of various kinds. In recent years, however, there has been a marked tendency to require of teachers specific training for the particular work which they undertake to do. Recent legislation and regulations governing the certification of teachers reflect definitely the tendency to require specialized certificates not only of teachers but of administrative officials as well.

For the past three years, through study and discussion, the New York State Education Department has been seeking to establish standards for the preparation and certification of elementary-school principals which would be satisfactory to the principals themselves and to the other school interests of the state. In September, 1928, a conference was called to draft a tentative statement of standards. The conference was attended by members of the committee on elementary education of the Council of Superintendents, the assistant commissioner for elementary education, the director of the teacher-training division of the State Education Department, the presidents of the two state colleges, and the superintendents of schools of Buffalo and Albany. At this conference a "tentative statement of standards for the preparation and certification of elementary-school principals" was drafted. During the year 1928–29 the tentative standards were discussed with various groups of principals throughout the state. In December, 1929, a conference of elementary-school

principals gave further consideration to the proposed standards. In April, 1930, at the first annual conference of elementary-school principals the proposed standards again came up for discussion. Finally, in January, 1931, a second conference was called to consider the problem further. The conference was attended by representatives of the various school interests in the state—representatives of teacher-training institutions, members of the Council of the Superintendents' committee on elementary education, representatives of the state Association of Elementary School Principals, and by representatives of the State Education Department. The resolutions of this conference were submitted to the state commissioner of education and are embodied, substantially as formulated, in the following regulations issued by the commissioner of education. The statement of these regulations is taken from a pamphlet entitled *Standards for the Preparation and Certification of Elementary School Principals*, prepared by J. Cayce Morrison and published by the University of the State of New York Press.

1. On and after September 1, 1932, all elementary-school principals shall be required to hold a principal's certificate issued under the authority of the Commissioner of Education.

2. For the purposes of administering this regulation the elementary-school principal shall be known as "the administrative head of one or more elementary schools who has at least half his time free for supervisory work and is responsible for the supervisory direction of the instructional activities of other teachers."

3. The elementary-school principal's certificate shall be of two grades—permanent and provisional.

4. These regulations shall not be retroactive. A permanent certificate shall be issued as of September 1, 1932, to all principals who are in service on that date, who have served continuously for a period of three or more years and who possess a teacher's certificate valid in the elementary schools; and to all other principals in service on that date who are recommended for certification by the employing superintendent.

5. The requirements for the permanent elementary-school principal's certificate shall be:

a) Graduation from a four-year approved high-school course or equivalent.

b) Graduation from an approved four-year college course with eighteen semester hours of professional training, including history and principles of education, six semester hours; general and educational psychology, six semester hours; methods, observation and practice teaching, six semester hours; or graduation from an approved three-year normal-school course

plus twelve semester hours in approved courses; or graduation from a two-year normal-school course plus a minimum of thirty-two semester hours of approved work.

c) In addition to the foregoing, a minimum of thirty semester hours of approved work with special emphasis on preparation for the elementary-school principalship. This curriculum shall include:

(1) A course or courses designed to give the minimum professional preparation, over and above that required of classroom teachers, needed for the administration and supervision of an elementary school. This course or courses should include the following subject matter:

(*a*) The supervision of instruction in elementary schools
(*b*) The curriculum of elementary schools
(*c*) The problem child and individual differences
(*d*) General administration
(*e*) The administrative problems of the elementary-school principalship

(2) For candidates who have inadequate preparation and experience in elementary education, courses designed to give a broad and thorough grasp of methods and subject matter used in the several subjects and grades of the elementary schools

(3) Practical contact with the work of the elementary-school principalship. This experience may be gained through:

(*a*) An assistant principalship involving close contact with the instructional program of the school, or
(*b*) An apprenticeship under a successful elementary-school principal or principals, or
(*c*) Extensive, organized, directed observation of the work of elementary-school principals

(4) *Electives.*—The balance of the thirty required hours shall be selected from any of the following fields that would contribute most to the well-rounded preparation of the individual for the elementary principalship:

(*a*) Additional courses in the administration and supervision of elementary schools
(*b*) Other courses in education, for example, philosophy of education, educational psychology, educational sociology
(*c*) Courses contributing to a general cultural background
(*d*) Courses in elementary education

d) Five years' experience in teaching or supervisory work, at least two years of which shall have been in direct contact with the general instructional work of elementary schools.

6. The requirements for the provisional elementary certificate shall be:

a) Graduation from a four-year approved high-school course or equivalent

b) Graduation from a four-year approved college with eighteen semester hours of professional training (as enumerated above); or graduation from a three-year approved normal-school course plus twelve semester hours in approved courses; or graduation from a two-year normal-school course plus a minimum of thirty-two semester hours of approved work.

c) Two years' successful experience in teaching or supervisory work. Experience as teacher, teaching principal, assistant principal, or general grade supervisor in elementary schools will be accepted. Experience as teacher of special subjects in senior high school or as teacher or supervisor of special subjects in junior or elementary schools may be accepted.

d) This provisional certificate will be issued for five years and will not be subject to renewal.

7. A certificate to a candidate for appointment will be issued only upon the written recommendation of the employing superintendent of schools.

GEOGRAPHIC NEWS BULLETINS

Attention is called to the fact that the National Geographic Society is continuing to issue the weekly "Geographic News Bulletins." These bulletins contain a wealth of information with respect to geographic developments and progress in other lands. They contain numerous illustrations from the geographic photographs in the pictorial library of the society. Five bulletins with their accompanying illustrations and maps will be sent to teachers who request them. A charge of twenty-five cents is made to cover mailing costs for thirty weeks. The society is located in Washington, D.C.

A BIBLIOGRAPHY OF THE JUNIOR HIGH SCHOOL

A recent number of the *Teachers College Bulletin*, published by the Eastern Illinois State Teachers College at Charleston, Illinois, contains an extensive bibliography of the junior high school. The bibliography was prepared by F. A. Beu. The material is classified under eight heads: (1) "Organization, Administration, and Supervision," (2) "Articulation of Junior and Senior High Schools," (3) "The Curriculum of the Junior High School," (4) "Educational and Vocational Guidance," (5) "College Entrance Requirements," (6) "Certain Junior High Schools," (7) "Status, Standards, Tendencies, and Trends," and (8) "The Training of Junior High School Teachers." The bibliography lists 308 items, each of which is adequately annotated, and contains an author and a subject index. Teachers, principals, superintendents, and others interested in the junior high school should find this bibliography of material help.

DO TEACHERS' COLLEGES NEED REORGANIZATION?

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Institutions of higher education have been notably conservative. They have adhered to traditional practices to a greater extent than have any other units of the educational system. Their organization and requirements have undergone relatively few changes in the last quarter of a century. When compared with such an institution as the secondary school, they are seen to have been unprogressive in adapting themselves to modern conditions.

However, evidences of an awakening are appearing. One of the largest state universities in the Middle West has recently announced a revision of its form of organization in fundamental particulars. A great endowed university has reported a radical change in its plan of operation. An experimental college has been established at a leading state university to try out a new method and a new content for the first two years of college work. Other institutions here and there are modifying organization and procedure. In general, there seems to be considerable dissatisfaction with the present organization of institutions of higher education, their processes, their requirements, and the materials which they use for educational purposes.

Is it not desirable also to take a constructively critical attitude toward teacher-training institutions? This article seeks to raise three questions concerning the teachers' college: (1) Is its present form of organization best adapted to its particular functions? (2) Are its curriculums adequate to embody the type of teacher preparation required under modern conditions? (3) Are the standards of its accrediting associations such as will best promote its development along desirable lines?

Teacher-training institutions maintained on the college level are relatively new. The state teachers' college came into existence largely during the last decade. It sprang up overnight, so to speak, and it

was a new type of professional school and a new institution of higher education brought into existence to perform a distinct professional function. It came forward so suddenly that it did not have time to establish for itself an organization of the type suited to its own peculiar functions. Therefore, it borrowed the organization of another institution which had existed for quite a different purpose; it adopted, in a large measure, the organization of the liberal-arts college, especially in the West. It exalted courses and credits and organized "departments," although frequently a department consisted of only one or two individuals. It set up courses with the traditional content of liberal education, even in many of the professional subjects. It organized typical liberal-arts-college majors and minors. The teachers' college took over the standards of liberal-arts-college accrediting associations. In general, the teachers' college generously imitated the liberal-arts college.

Today, therefore, the teachers' college is an institution which has functions quite different from those of the liberal-arts college but which has the organization of the latter. The suitability of this organization as the vehicle in which the teachers' college may move forward most effectively in the next twenty-five years is open to serious question. This doubt with regard to the traditional departmental system as the basis of the organization of the teachers' college is amply confirmed by a study of the organization and the operation of the departments of the liberal-arts college and the university. Many people in teachers' colleges who are working under this plan in the highly developed form which it has reached in some institutions also seriously question its value in enabling the teachers' college to perform its functions.

A department often exalts its own subject matter as an end in itself rather than as an instrument in the preparation of teachers. A complete group of courses in a department which covers exhaustively that particular field of knowledge is often taken as the objective of departmental development rather than a sequence of courses which may be less inclusive but which better meets the specific needs of different kinds of teachers. Courses are often included in departmental offerings solely for the reason that they round out the offerings of the department. Frequently such courses do not contrib-

ute materially to the background needed by a teacher. Under a high degree of departmental autonomy, departments often develop in a direction which is least appropriate to the needs of teachers.

In curriculum construction it is obviously desirable to make an analysis to find out what kinds of materials are best suited to the needs of particular types of teachers in the various fields of service and then to establish courses which will give prospective teachers a command of those materials. When the different curriculums have been constructed on the basis of such an analysis, the courses that find their way into the several curriculums will constitute the list of courses for each department. When, for example, the kind of course in psychology needed by primary teachers is determined and that course is written into the curriculum for primary teachers and when the same procedure is followed in establishing courses in psychology for the other curriculums, the list of courses which ought to be offered in the department of psychology will thus be determined. There is a growing tendency to make the courses in a teachers' college specific and to select the materials carefully with reference to the differentiated work which is required of teachers in different positions. To bring a group of disjoined departments to look at the problem of the curriculum in this manner is most difficult.

The unsuitability of the college major as an instrument of teacher preparation in subject matter has been stressed.[1] Here again the desirability of the departmental organization of the liberal-arts college appears to be open to question. It is an easy matter for an academic specialist to organize a series of courses in some field which, when printed in the catalogue of the teachers' college, is very impressive. The array of titles gives to the superficial observer an impression that the institution offers unusual breadth of training for prospective teachers and that its curriculums offer exceptional opportunities to acquire scholarship. Careful analysis, however, may reveal a serious lack of adaptability of such all-inclusive arrays of courses to the field of teacher preparation. The courses cover the fields of knowledge represented by the departments, it is true, but

[1] Frank P. Bachman, *Training and Certification of High School Teachers*, pp. 129–49. Field Studies No. 2. Nashville, Tennessee: Division of Surveys and Field Studies, George Peabody College for Teachers, 1930.

attention directed to securing, through a sequence of courses, an orderly and systematic presentation of the complete body of knowledge in some departmental field may fail to provide for the particular needs of different kinds of teachers who must be trained by the institution.

It has been clearly shown in recent years that only in the large high schools do teachers teach a single subject or confine themselves to special aspects of subjects.[1] Except in the large high schools, a teacher of American history or even a teacher of history is rarely found. There is more likely to be a teacher of social sciences, including history and several other social-science subjects. Again, the combination may be history and mathematics, or it may be history, mathematics, and physics. The present instructional organization of high schools is faulty in essential characteristics, and even at its best it presupposes that there will be in the small and middle-sized high schools not teachers who are academic specialists in narrow fields but teachers who have a working command of several subjects. In other words, the problem of the teachers' college is not so much to give a teacher an exhaustive knowledge of a single academic subject as it is to prepare him for some particular teaching field in the form of a combination of subjects known to exist in the public-school system of the state. Thus "teaching field" becomes a more important term than academic "major" or "minor" as used in liberal-arts colleges and universities.[2] A study of the whole problem of subjects and subject combinations, more extensive than anything which has yet been undertaken, and an investigation of the instructional organization of secondary schools and other schools should be made so that the type of training offered in the teachers' college may more nearly prepare teachers for the teaching fields with which they will be confronted rather than to give them the extensive knowledge of a single academic subject contemplated by the university major.

All this discussion leads up to the question: Is there not a better

[1] See, for example, James Monroe Smith, *The Training of High School Teachers in Louisiana*, p. 99. Teachers College Contributions to Education, No. 247. New York: Teachers College, Columbia University, 1927.

[2] Frank P. Bachman, *op. cit.*, p. 137.

type of organization for the teachers' college than that which it has borrowed from the liberal-arts institution? Some think that what is needed is an organization of the teachers' college into "divisions" instead of academic "departments." In a divisional organization each division is a unit in which are offered one or more unified curriculums for the preparation of particular kinds of teachers. For example, a division of elementary education will offer unified curriculums for preparing kindergarten-primary, intermediate-grade, and upper-grade teachers. The personnel of this division will consist of all those members of the faculty who are concerned with the preparation of elementary-school teachers, as well as the members of the staff of that part of the training school which is included within the field of elementary education. All the courses that are offered for elementary-school teachers will constitute the division of elementary education.

In this plan functional unity replaces departmental disjunction. There will be a limited number of divisions, but there will be a division corresponding to each of the special fields of teaching service (such as elementary education and secondary education) and a division for each of the special subjects (such as a division of commerce education for preparing high-school teachers of commercial subjects, a division of health and sports education to prepare special teachers of health and directors of games and sports, a division of home-economics education, and so on throughout the list of the so-called "special" subjects). In teachers' colleges such as those in Illinois, perhaps a dozen divisions will be found. The point of view in the divisions is functional. Each division is a cross-section of the entire institution, and its activities are pointed toward the preparation of teachers for a particular kind of teaching service. All members of the faculty concerned with teaching the different subjects and all those engaged in the supervision of student teaching meet for discussion centered on a single objective, under this plan of divisional organization and divisional conferences.

During the year 1930–31 this type of organization was instituted at the Illinois State Normal University, a state college for teachers. In this institution are found the following divisions: the Division of Rural Education, the Division of Elementary Education, the

Division of Junior High School Education, the Division of Secondary Education, the Division of Educational Administration and Supervision, the Division of Music Education, the Division of Art Education, the Division of Trade and Industrial Education, the Division of Commerce Education, the Division of Home-Economics Education, the Division of Agricultural Education, the Division of Speech Education, and the Division of Health and Sports Education. In each of these divisions a four-year curriculum is offered, and in some divisions two such curriculums appear. In several, two-year curriculums are offered.

Each of the divisions has a director who is especially prepared in the field of work represented by the division. For example, the Division of Secondary Education is headed by a man who has been a successful high-school principal in the state and who has also done three years of graduate work in the school of education of a leading university, specializing in secondary education and in the education of teachers. A strong director of this kind who understands the problem thoroughly is able to unify the preparation of high-school teachers in a way that cannot be accomplished in an organization having a large number of isolated departments in the fields of subject matter. The director exercises general supervision over both the critic teachers and the supervisors who work in the division and over the teachers who instruct the student teachers in education. Members of the faculty who teach courses in methods also supervise the same students in their student teaching. This fact again tends toward unity. The work of each division is accomplished through the subject-matter "departments," although departments do not exist in the sense that they do in a liberal-arts college. The departments furnish the professional and academic subject-matter courses taught in the divisions. The training school is the laboratory of the several divisions.

The whole problem of the organization of institutions of higher education offers a challenging field for study. The work and the functions of the teachers' college should be examined to determine whether the present organization, some modification of the present organization, or an entirely new type of organization is best suited to the purposes of teacher preparation. It is believed that no mere

gathering of data about what now exists followed by an extensive tabulation of results, however elaborate, will lead to a solution of the problem. Such an investigation should probably be made as a starting point, but there needs to be analysis of the functions and purposes of the teachers' college, a study of its work and activities, the experimental establishment of new forms of organization, a testing of the results of new procedures, and a careful evaluation over a long period of such new plans as are established. This problem needs to be defined and experimentation begun at once. Why not find a few institutions which desire to make experiments along these lines, grant them subsidies to provide the proper staffs for ten years, and allow them to set up and test new forms of organization?

What constitutes the best curriculum for preparing teachers? The curriculum embodies the entire plan and represents the fundamental policies of teacher preparation for which the institution stands. Therefore, it, more than any other single factor, determines the quality of teacher-training done by an institution. On what basic facts or guiding principles shall the curriculum of the teachers' college be constructed? No question connected with teacher-training is of more vital consequence than this. Are facts now available which constitute a scientific basis for the curriculum of the teachers' college? If so, what are they? If not, how may a body of such facts be discovered? What types of analysis are desirable? What fact-finding studies are needed to reveal the necessary information? Can the curriculum of the teachers' college be inferred directly from the objectives of education? Can it be derived from an analysis of current teaching practices and present uses of instructional materials in schools? Can it be drawn from an analytical study of what schools would be if they were based on all the scientific evidence available at the present time? Does an analysis of teachers' traits and teachers' activities furnish a basis for constructing a curriculum for teacher preparation? These are fundamental questions. To state the questions is easier than to answer them. It is probable that most people would agree that at the present time a complete scientific basis for the construction of an ideal curriculum for teacher-training does not exist. On the other hand, there are undoubtedly significant facts which may be assembled, interpreted, and utilized in estab-

lishing at least tentative guiding principles as the basis for provisional curriculum-making in teacher preparation. Several excellent statements of such principles of curriculum construction have already been made, which are at least highly suggestive and a partial guide.

An examination of the curriculums of teachers' colleges throughout the country reveals no sound and consistent curriculum theory and no widely accepted basic principles. Curriculums of teachers' colleges grow out of no social philosophy of education with regard to which there is general agreement today, except that they are consistent to some extent in their imitation of the curriculums of liberal-arts colleges and universities. In general, however, there are wide diversity and an absence of curriculum science as a guide in determining what to include and what to omit. These facts point to the desirability of collecting all possible facts which will throw light on the problem of scientific curriculum construction in teacher preparation, of making a beginning in constructing curriculums for teacher preparation on a sound basis, and of outlining further studies along the same line so that there may be steady progress in assembling the necessary facts and in revising curriculums in the light of the evidence thus obtained.

The selection of the courses which constitute the curriculums of teacher preparation is an important question for study. There are undoubtedly materials and sequences of courses in subject matter which are better than others. Considerable dissatisfaction is expressed with regard to the materials which constitute the so-called "professional" courses in teacher preparation. These statements lead to two important questions which are problems for research in this field: (1) What should be the nature and sequence of the subject-matter courses in a teachers' college? (2) What sequences of courses in education best promote the effective preparation of teachers? A third important query is: Should subject-matter courses in a teachers' college consist in the same materials which are taught or which ought to be taught in good liberal-arts courses?

The discussions of certain leading students of teacher preparation imply that subject-matter courses in a teachers' college should be entirely different from courses in the same subjects under the same

titles in a liberal-arts institution.[1] Is there a basis in fact for this judgment? It has been said that subject matter should be "professionalized" in a teachers' college. It is pertinent to ask what professionalized subject matter is. Does it mean choosing a more significant and vital type of material so that when both liberal-arts colleges and teachers' colleges have vitalized their subject matter, there will be no difference in their academic offerings in a given subject? Is professionalized subject matter something which goes quite beyond vitalized academic materials? In a word, the entire question of the treatment of subject matter in a teachers' college is a significant problem for discussion and investigation. Is it not important to investigate the character of the subject-matter background needed by a teacher in order best to prepare him to use the instructional materials appropriate to the grade or subject which he teaches? Is there a particular and different kind of treatment of subject matter which is desirable in a teachers' college? If so, what is it?

Little agreement seems to exist at the present time concerning the courses in education which any particular type of teacher may take to the best advantage. Catalogues of institutions for teacher preparation reveal no consistent plan and no underlying principles. There seem to be bewildering arrays of courses in the different institutions which prepare teachers. Surely some arrangements of courses leading to understanding of instructional principles and to ability and skill in the technique of teaching are more effective than others. What materials may best constitute the content of courses in education in a teachers' college? What are the valuable results of research which are capable of being used as the materials of courses to prepare teachers? Have the significant results of research found their way into these courses? All these matters seem to represent important problems toward the solution of which little real progress has been made. What method of attack on these problems will prove most productive? What studies will reveal desirable sequences and the most valuable materials for courses in education?

In this field lies an opportunity for years of productive work.

[1] See, for example, E. S. Evenden, "Predicted Changes in the Curriculums of Teachers Colleges by 1950 as Shown by the Experiences of the Committee on Standards and Surveys," *Eighth Yearbook of the American Association of Teachers Colleges*, pp. 50–58, Washington: National Education Association, 1929.

Analysis will yield considerable information. Students of the subject may be able, after surveying the products of research, to suggest more desirable materials for some of the courses in education. It may be necessary to try out particular offerings in education on an experimental basis and to make efforts to test the results in some manner in order to learn what are the best materials, the most favorable sequences, and the proper amount of work to require. In the reconstruction of courses in education in an effort to bring them completely into line with the results of modern research, progress seems to have been made slowly. A more effective plan of teacher preparation may have to wait until something more effective has been done in this direction.

A problem of curriculum construction which is of great significance is that of the relations of the so-called "professional" subjects, the subjects furnishing the background for the teachers' instructional materials which he will use in the classroom in his own teaching, and the studies which are included for purposes of personal culture, social poise, and general orientation as a citizen of the modern world. In what proportions should subjects of the three types be included in the curriculum? Is there a common background of culture which all teachers need? Are there certain courses which should be introduced as constants for all students regardless of their particular destinations as teachers? Should the courses devoted to professional preparation of teachers furnish the liberal education needed? In a word, the whole question of the liberal education of the teacher is an important question which has not yet been satisfactorily studied.

Whether curriculums for all teachers cannot now be considerably extended in the interests of better preparation is another curriculum problem of great importance. Suggestions have been made that a minimum of five years should be required for all high-school teachers and that, as soon as possible, four years should be required for elementary-school teachers.[1] It is recognized that learning in the field of teacher preparation, as in the case of the school subjects, is not mainly a question of time spent and credits earned. It is a prob-

[1] Herman J. Magee, "A Look Ahead," *New York State Education*, XVIII (September, 1930), 9–12.

lem of achievement, and the period of time required is a matter of secondary consideration since the acquisition of the necessary understandings of instructional principles, the attainment of a grasp of study materials, and the development of ability and skill in teaching are gained more rapidly by some persons than by others. Nevertheless, the production of teachers having advanced to the point that it has now reached, it may be pertinent to consider whether the shorter curriculums which exist in some states may not be discontinued in favor of longer periods of preparation. It is still possible in some states to secure a license to teach in the upper grades of the elementary school and even in the high school after two years of preparation. It is permissible in some states to teach the special subjects—such as home economics, physical education, and manual arts—after two years of preparation. In most states a certificate to teach in the elementary school can be secured at the end of a two-year curriculum. What facts justify these periods of preparation? Are there facts that warrant the arguments for longer training, especially in the case of elementary-school teachers? This is a problem which may well be investigated in order that the facts which support the present policy or which furnish reasons for a change of plan may be brought to light.

What characteristics and abilities do effective teachers possess? This is a question which may have an important bearing on the reorganization and improvement of teacher-training. If it is possible to find out what characteristics and abilities the most effective teachers have, if the influences which caused these particular qualities to originate in the individual and grow to maturity can be identified and analyzed, and if the processes of development can be traced and described, considerable light may be thrown on desirable practices in teacher-training. Anyone who has observed teachers knows that some have personality traits and abilities and skills which are important factors in enabling them to teach effectively and that others do not have these qualities. Do capable teachers possess these characteristics as inborn traits, which develop when exposed to the ordinary processes of teacher-training, so that by experience such teachers acquire the ability to teach competently without a great deal of regard to the manner of their preparation?

Do other persons lack, in a greater or less degree, certain inborn characteristics so that they can never become strong teachers? Is it true, on the other hand, that most people possess inherent qualities that will make them successful teachers if they can be subjected to a particular regimen?

The writer believes that nobody knows the answers to these questions. Perhaps they are not capable of analysis. It may be that they can never be answered. However, the writer believes that it will be desirable to study the characteristics and abilities of effective teachers in a rather extensive manner in order to learn whether those traits seeming to contribute to success in teaching can be traced back to the influences of training. Possibly it will be found that the most skilful teachers and the least efficient have had exactly the same preparation. It may be discovered that the type of preparation which the individual receives is far less important than some other factors.

It will be necessary to determine types of personality to which children best respond. The development of the personality of the teacher has recently become a matter of great importance to teacher-training institutions. A good teacher is able to do certain things well: to set up sound objectives of teaching, to organize study materials of an appropriate kind for use in the classroom, to sense whether the instruction is registering, to evaluate instruction by formal and informal tests, to recognize deficiencies in his own teaching, and to do corrective teaching.[1] Possessors of these abilities must be identified and studied. It will be an almost superhuman task to identify a thousand of the best teachers in the country, to analyze their teaching and their personalities into the elements which contribute to their success and to discover the influences which operated on them in their training to produce these particular characteristics. Nevertheless, such a procedure is undoubtedly essential to a final and complete solution of the problem of how best to prepare teachers.

Whether in the next decade it will be possible to do more than merely to scratch the surface in attacking the problem of defining

[1] Henry C. Morrison, *The Practice of Teaching in the Secondary School*, p. 22. Chicago: University of Chicago Press, 1926.

the characteristics and abilities of the best teachers is doubtful. It is a stupendous task. It involves the whole question of the nature of liberal education, personality as applied to teaching, the general objectives of education and the specific objectives of each division of the school system and each subject in each division, the subject-matter background needed by a teacher as a basis for a command of the materials of instruction, abilities and skills involved in effective technique of instruction, personal and community relations of the teacher, procedures involved in modern school organization, classroom management and pupil administration, and the needs of the teacher as a citizen and as a member of a great profession. Doubtless other criteria of an effective teacher, of which these are merely a few illustrations, will be found. Merely to enumerate the bases of judgment suggests the magnitude of the task of identifying good teaching and the good teacher. It may be reiterated, however, that the complete analysis of the criteria is essential in attacking constructively the problem of a better curriculum for teacher preparation.

What general standards prevailing in the teachers' colleges are most favorable to the successful training of teachers? Undoubtedly, certain general standards are the conditioning factors of the curriculum and the general plan of preparing teachers in any institution. Nevertheless, there is considerable doubt whether the standards of the accrediting associations are the best. At present these are largely quantitative standards. It is entirely possible that an institution might meet all these standards and still fail to do effective teacher preparation. A sufficient proportion of the faculty of a teachers' college may hold the Doctor's degree, the institution may spend the required amount of money for apparatus and equipment, it may have a sufficient number of books in the library, it may have excellent buildings, it may require each student to take the proper number of senior-college courses—in a word, all the external features of a teachers' college may conform to the standards of the accrediting association, and yet the college may be a poor teacher-training institution. It is conceivable that an institution lacking some of these things ought to be accredited because of the quality of its work.

The American Association of Teachers Colleges has developed a

most complete set of standards. The North Central Association of Colleges and Secondary Schools accredits teachers' colleges on the basis of its standards for liberal-arts colleges and universities. Other regional associations do the same. Whether these formal and quantitative standards will stand the test is a grave question. Something else may be needed which will evaluate the quality of the institution in a more comprehensive way and measure in a superior manner its professional character. Many people deplore the present trend of the development of standards—the adding of detail upon detail—so that any institution, however excellent, which varies from standard finds it harder and harder to meet the requirements of accrediting associations. May it not be that the existing standards have served their original purpose and now need to be revised? Are not the teachers' colleges of the country now confronted with the problem of developing standards of a qualitative and professional character which will evaluate on a sound basis the character of the instruction given in the institutions and the efficiency with which teacher-training is being conducted?

The purpose of this article has been to raise three questions. The discussion is intended to be critical and constructive but not final. These questions represent problems which require study, analysis, research, and experimentation. The questions may not be solved for a long time. However, it is believed that the most effective type of teacher preparation will only be attained after the questions have been solved, at least in part.

TEMPORARY LAPSES IN ABILITY AND ERROR IN ARITHMETIC

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This article reports data on the partial nature of one type of error in arithmetic. Temporary lapse in ability, rather than a thoroughgoing disability, accounts for error in certain definite situations. General assertions concerning error in arithmetic may serve as an introduction to the data to be presented. These assertions need not be defended at present since several of them are common knowledge and others are used only to orient the reader's perusal of the main body of the paper. The assertions are but a partial list of considerations pertinent to the problems involved.

Assertion 1.—Error studies yield insight into the nature of learning and hence yield evidence useful in increasing our control over the learning processes. As a matter of both theoretical and practical concern, the human mind reveals itself when it fails to do what we want it to do. The facts gained from error studies do not, in and of themselves, improve the situation, but they give the teacher guiding information to improve the factors and conditions of learning.

Assertion 2.—Error studies already reported in the literature vary from zero merit and negative merit (in the sense that misinformation is offered) to great positive merit. It is not always easy to distinguish between facts, however voluminous, which are impotent to give guidance and facts which can be used as a partial basis for the construction of better ways of learning.

Assertion 3.—Several relatively distinct techniques for use in conducting error studies have been invented. The best known of these are (1) the statistical, (2) the case study, (3) the laboratory, and (4) the clinical techniques. Each of the techniques has its own inherent strengths and weaknesses; each yields value when used with com-

petence; each is futile when mismanaged. In actual work any single study may use more than one technique.

The techniques best adapted for any given study depend on the kind and quality of data desired. Thus, if the desire is to secure gross test scores which need not be analyzed, a statistical technique would be used and attention would be centered on considerations of sampling, size of populations, uniformity of test directions and conditions, and related matters. If it is desired to find out what children are doing when they learn that $7+8=15$, laboratory and case-study techniques would be used since statistical tables of gross scores on the performance of even a million upper-grade pupils would not give the facts wanted or needed.

Assertion 4.—A careful listing of the specifications or characteristics of the technique in each error study would be useful. Such a list can be constructed by a consideration of crucial questions of which these are samples: (1) To what definite use are the data to be put after they are obtained? (2) Exactly what facts, in contrast to many alternative facts, are desired? (3) In the light of the answers to Questions 1 and 2, what plan safeguarded by what experimental precautions is preferable to alternative plans?

Assertion 5.—We badly need an adequate theory of the nature of error. It is apparent, to the writer at least, that much of the present thinking about error assumes that error is a much simpler phenomenon than it is. Errors may not be single in their nature, every error being part and parcel of the same thing and all errors calling for the same treatment. Treating all errors alike is analogous to treating all fevers alike—a purely makeshift and palliative futility. Thus, the therapy for error due to temporary lapse is not the therapy for actual ignorance. Much of our treatment of error, be it ever so heroic, is nevertheless superficial and unsuccessful because it is based on too little understanding of the psychological nature of the error and the processes leading up to it.

Assertion 6.—It is highly probable that we shall not solve the problem of "too much error" in one swoop. On the contrary, increase in control of learning will come as an integration or pooling of many different findings. These will appear from many different directions and be made in many different ways. The attack on error

will be one using the strategy of attrition and consolidation of many little gains rather than the strategy of one major assault with the enemy vanquished by Christmas or early spring.

ERROR AS TEMPORARY LAPSE

If it is assumed that error is a general name for many different things, it is fruitful to consider the effect on the frequency of error of position in an example. As an illustration, consider the position of 7×9 in the following examples:

No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
2649	2946	2649	2946	2469	2946
×837	×837	×378	×378	×738	×738

All these examples contain the same digits in the multiplicand and multiplier. All contain twelve multiplications. When the twelve multiplications are considered as a series, 7×9 is the first in the series in Example 1; in Example 2, 7×9 is the third in the series; in Example 3, 7×9 is the fifth in the series; in Example 4, it is seventh in the series; in Example 5, it is ninth in the series; in Example 6, it is eleventh in the series.

The preceding paragraph illustrates change of position of the same multiplication fact. Data will be presented to support the statement that the later a multiplication fact appears in a series, the more frequent the error upon it even when its associations with necessary carrying are made negligible factors. Such data lend plausibility to the assertion that difficulty (and, here, error) is not a fixed fact but, even within small units of work, is partly a function of the position of the fact in the example.

Consider a second series of examples:

No. 1	No. 2	No. 3
2649	2649	2649
×837	×873	×783

In these three examples the total multiplicands are identical. The multipliers contain the same digits but in different orders. Thus,

$\begin{array}{r} 2649 \\ \times 7 \\ \hline \end{array}$ is the first third of the multiplication in Example 1, the second third of the work in Example 2, and the last third of the multiplication in Example 3.

Data will be presented to show that multiplying a complete multiplicand by any digit is not of constant difficulty but becomes more difficult the farther on in the total work it appears. Thus, in the three examples just given, $\begin{array}{r} 2649 \\ \times 7 \\ \hline \end{array}$ considered as a sub-unit of work is not of constant difficulty but is harder in Example 2 than in Example 1 and is, in turn, harder in Example 3 than in Example 2. Certain speculations are made possible by these fluctuations in difficulty, but their consideration may be postponed until after a study of the evidence.

A DIGEST OF THE EXPERIMENT

The material.—Four test forms, each containing eight multiplication examples, were constructed. Example 1 in each of the four forms contained the same digits in the multiplicand and the multiplier, but the positions of the digits varied. The same was true of six other examples. One example was identical in all four test forms. The four variations in Example 1 in the test forms follow.

Form A	Form B	Form C	Form D
3789245	2459378	2937845	4537829
×7	×7	×7	×7
———	———	———	———

Variations in multipliers with the multiplicand held constant are illustrated by Example 6 in the test forms, which follows.

Form A	Form B	Form C	Form D
6824	6824	6824	6824
×9537	×9573	×3795	×7359
———	———	———	———

An analysis of the multiplication used in all forms will show that the forms used identical multiplication facts. The carrying involved varied slightly, but there was no piling-up in any of the forms of either difficulty or ease in carrying.

Pupils co-operating.—Two hundred pupils in the sixth grade of four schools used each form. A total of eight hundred papers were examined. The groups were equated by giving each fourth pupil the same form, so that every fourth pupil worked Form A or Form B, etc. In order that confusion between difficulty as a function of position in an example and difficulty of initial learning might be avoided, the sixth grade was used.

The chance method of equating groups was considered acceptable as the number of cases used was substantial. A further check on the equality of the groups was obtained by having one of the examples in all forms of the test identical. The percentage of correctness on this common example was approximately the same in all groups. No difference of performance on this example by any group was even large enough to prove that no statistical difference was present in the groups. There were, then, four groups of pupils of respectable size and of apparently equal ability in multiplication.

Time allowance.—No strict time allowance was made. Each pupil was permitted to finish his work, but no correction of the original work was allowed.

SAMPLE DIFFERENCES

Individual multiplication.—In the samples which follow in Table I, "position" means the place in a series of multiplications. The positions of each multiplication in an example of a series of sixteen multiplications are numbered in the following example.

				3	6	9	8
				7	8	6	4
				4	3	2	1
			8	7	6	5	
		12	11	10	9		
	16	15	14	13			

The first numbers in the body of Table I are the numbers of errors made. The numbers following the plus signs indicate the number which was carried. Thus, when 7×7 was in the second position, twenty-seven errors were made and 5 had to be added to the product of 7×7. In Table I it is seen that, although the same digit is

carried to 7×7 in every position, the difficulty increases with the lateness of the appearance of 7×7. Space limitations forbid the spreading of all possible comparisons on the page. The following summary uses all the data; and, although exceptions occur, the bulk of the evidence supports the statement that a multiplication becomes harder the later it appears in an example. There were 104 comparisons made which were similar to those given in Table I. Of these, eighty-eight show exactly the same tendency shown by the comparison given in Table I, twelve are noncommittal, and four are contradictory to the general tendency.

TABLE I

SAMPLES OF FREQUENCY OF ERROR AS A FUNCTION OF POSITION IN A SERIES

NUMBERS MULTIPLIED	FREQUENCY OF ERROR							
	Position 1	Position 2	Position 3	Position 4	Position 5	Position 6	Position 7	Position 8
7×7	.....	27+5	.....	39+5	.....	74+5	.....	.....
4×7	.....	17+3	.....	.....	.....	24+4	.....	41+3
2×7	.....	25+6	27+3	.....	.....	.....	40+6	.....
9×9	21+0	41+1	.....	44+5	75+2	.....	.....	.....
8×6	20+0	49+7	.....	55+4	.....	.....	.....	.....
5×9	.....	.....	.....	36+0	61+7	.....	93+8	102+7

An attempt was made to show that the tendency for the same multiplication to become harder was not due to lateness of appearance but to the carrying difficulty involved. It is readily seen that the total work of multiplying and carrying related to 5×9 in the following Sample A is more complex than the multiplying of 5×9 in Sample B.

Sample A	Sample B
298	289
$\times5$	$\times5$

Difficulty is not a function of the carrying involved in the work in the sense that the larger the number to carry, the more frequent the error. Data on this possibility are reported later. The bottom row in Table I typifies the general tendency. When it appeared in the fifth position, 5×9 with a 7 carried had 61 errors. The same

operation had 102 errors when it appeared in the eighth position. The first row in Table I shows a multiplication in which the same number was carried and the error mounted as the same unit of work appeared later and later in a series.

Group multiplications.—It is useful to test further the theorem that the difficulty of a given multiplication is not a thing in itself insulated from the position it holds in a series but that difficulty is seriously affected by position through the use of another organization of the facts. Consider for the moment $\begin{array}{r} 3789 \\ \times 7 \\ \hline \end{array}$ as a group multiplication. Will the difficulty of this group taken as a whole contain more, less, or the same amount of error when it appears as first, second, or third in relation to other similar groups? The change in position is illustrated in Samples A, B, and C.

Sample A	Sample B	Sample C
3789	3789	3789
×487	×478	×748

Data follow which support the suggestion that the $\begin{array}{r} 3789 \\ \times 7 \\ \hline \end{array}$ is easiest in Sample A, harder in Sample B, and hardest in Sample C. The data will be presented in classes based on the number of digits involved.

In Class 1 there are twenty-eight comparisons with two digits in the multiplicand. In the example $\begin{array}{r} 31029 \\ \times 9 \\ \hline \end{array}$, the $\begin{array}{r} 29 \\ \times 9 \\ \hline \end{array}$ occupies Positions 1 and 2. In the example $\begin{array}{r} 29031 \\ \times 9 \\ \hline \end{array}$, the $\begin{array}{r} 29 \\ \times 9 \\ \hline \end{array}$ occupies Positions 4 and 5. Table II shows samples of two-digit multiplicands in various positions in series. All other digits in the examples were identical, as previously mentioned. In twenty-eight comparisons such as those given in Table II not a single exception to the premise that increase in difficulty accompanies increase in position occurred in the series. It should be remembered that the twenty-eight comparisons were chosen entirely at random. The samples given in Table II are not

the extreme fluctuations but are the seven fluctuations occupying every fourth place when the fluctuations were arranged in order of amounts of change in difficulty.

TABLE II

SAMPLES OF FREQUENCY OF ERROR WHEN TWO-DIGIT MULTIPLICANDS ARE USED IN VARIOUS POSITIONS IN A SERIES

NUMBERS MULTIPLIED	FREQUENCY OF ERROR*			
	Positions 1 and 2	Positions 4 and 5	Positions 7 and 8	Positions 10 and 11
29×9	51	82	.....	.....
92×9	70	102	.....	.....
53×9	32	134	.....	.....
85×6	67	162	.....	.....
53×4	.....	.....	68	110
29×4	.....	.....	77	110
35×4	.....	.....	30	118

* Since Positions 3, 6, and 9 are not concerned, they are not included in this table.

TABLE III

DIFFICULTY WITH TOTAL MULTIPLICANDS WITH MULTIPLIER IN DIFFERENT POSITIONS

NUMBERS MULTIPLIED	FREQUENCY OF ERROR			
	Position 1	Position 2	Position 3	Position 4
47038×9	279	442	568	.....
47038×2	64	153	341	.....
47038×7	191	338	427	.....
6824×9	270	217	312	301
6824×5	85	202	159	353
6824×3	121	122	249	278
6824×7	121	216	252	372

In Class 2 multiplicands of four or five digits were used. These represent the total multiplicands in the examples. The next illustrations show $\begin{array}{r} 47039 \\ \times 9 \\ \hline \end{array}$ in three positions.

$$\begin{array}{r} 47039 \\ \times 679 \\ \hline \end{array} \qquad \begin{array}{r} 47039 \\ \times 697 \\ \hline \end{array} \qquad \begin{array}{r} 47039 \\ \times 967 \\ \hline \end{array}$$

Table III gives samples of changes in the difficulty of total multiplicands times a multiplier when the multiplier is in different posi-

tions. Twenty-five comparisons similar to those reported in Table III were selected at random. Five of these failed to support the contention of difficulty as a function of position. Twenty gave clear evidence to support the contention. Table III contains some exceptions as, for example, the fluctuation of the difficulty of 6824×5 in Positions 2 and 3.

In Class 3 total multiplicands and two digits of the multiplier were compared. Samples of data of this type follow.

Sample A	Sample B
6824	6824
×6795	×9567

The 95 in Sample A is concerned with Positions 1–8. In Sample B the 95 is concerned with Positions 9–16. Table IV shows typical comparisons. Of sixteen comparisons made, none failed to support

TABLE IV

DIFFICULTY OF TOTAL MULTIPLICANDS AND TWO DIGITS IN MULTIPLIERS

NUMBERS MULTIPLIED	FREQUENCY OF ERROR	
	Positions 1–8	Positions 9–16
6824×95	302	460
6824×59	322	665
6824×37	243	530
6824×73	337	625

the contention that the later an operation is performed in an example, the more difficult it is. The amounts of fluctuations reported in Table IV are the middle four of the sixteen made when they are arranged in order of amount of fluctuation.

Summary.—By taking sections of the work involved in multiplication of complexities varying from one digit multiplied by one digit to four digits multiplied by two digits and varying in position in the example, we find that 152 random selections of units of work show increase of difficulty with progressive lateness of appearance in the example, 12 are noncommittal, and 9 are contradictory to the theorem defended. Other factors which might account for the coherence of the data deserve notice.

FACTORS WHICH DO NOT AFFECT FREQUENCY OF ERROR

By conceiving of multiplication as a series with a single multiplication fact occupying various positions in the series, we can diagram and number the series of operations as follows:

				4	3	6	9
				7	8	9	4
				4	3	2	1
			8	7	6	5	
		12	11	10	9		
	16	15	14	13			

Here the first multiplication is in Position 1, the second in Position 2, and so on. This article suggests the theorem that the later a computation occurs in a series, the greater the frequency of error. However, it will occur to the reader that position in the series may have no significance at all. Two other causes, which can be easily examined, may be operating.

First, errors may have piled up at the ends of the examples because carrying difficulties were more frequent at the ends of the examples used in this particular experiment. This explanation is entirely without foundation. Carrying difficulties appeared in the first half of each example as frequently as they appeared in the latter half of the example and with similar magnitude. By examining those positions which contained the 163 most frequent errors (others containing too few errors to deserve consideration), we find the facts given in Table V. Knowledge about the contribution of the carrying difficulty to frequency of error is rather scant. Most readers will agree that the facts of Table V do not sustain the opinion that the load of carrying difficulty in the latter halves of the examples can account for the piling-up of error in that area.

Second, errors may have piled up in the latter halves of examples because difficult multiplication combinations appeared there far more frequently than in the first halves of the examples. This explanation of the position of error in an example need not be considered because it is contrary to the facts in the matter. By using the difficulty ratings for the multiplication facts reported by Norem and

Knight,[1] we can secure the average rank order of the difficulty of the multiplication facts used in the examples. The rank order of the difficulty of the facts in the first halves of all examples is 8.9; of the facts in the latter halves of all examples, 7.1. It will be noted that the average difficulty of multiplication facts in the first halves of the examples was slightly greater than that in the latter halves. The piling-up of difficulty in the latter halves cannot serve, then,

TABLE V

FREQUENCY OF NUMBERS CARRIED IN MULTIPLICATION IN FIRST HALVES OF EXAMPLES AND IN SECOND HALVES OF EXAMPLES

NUMBER TO BE CARRIED	FREQUENCY OF APPEARANCE	
	First Halves	Second Halves
0	6	18
1	4	9
2	6	11
3	12	8
4	14	9
5	18	9
6	9	7
7	10	6
8	2	5

to account for the fact that 27.6 per cent of the total errors came in the first halves and 72.4 per cent of the errors came in the latter halves of the examples.

It seems reasonable, therefore, to look for the explanation of the piling-up of errors in the latter halves of the examples in terms of lapses of ability in the worker since the facts are not accounted for by any variations of difficulty in the halves of the examples themselves.

CONCLUSIONS AND INFERENCES

1. We have long known that attention flickers from split second to split second, but this fact does not affect educational method.

[1] G. M. Norem and F. B. Knight, "The Learning of the One Hundred Multiplication Combinations," *Report of the Society's Committee on Arithmetic*, p. 555. Twenty-ninth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1930.

Such flickering is too rapid and too inherent to be controlled. We need not attempt its control even if we could.

2. We have long known that there is a gradual decrease of effective output over long periods of time. This decrease is due to a variety of factors which need not be rehearsed here. This fact has led to several common-sense conventions in educational method. For example, we do not ask children to study history and nothing else in October and then to spend all of November on citizenship, nor do

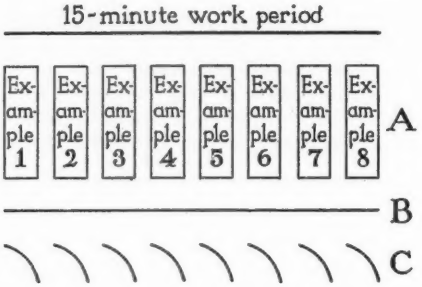

FIG. 1.—Work curves for a fifteen-minute period of work on eight examples. A represents the examples; B, the curve as a whole; C, the curve as a segment of work on each example.

we ask pupils to keep at the same task all day or even for several hours.

3. We do not, however, at present make any adjustments for short-time fluctuations or lapses in ability of the type reported in this article.

4. The data in this article suggest certain possibilities which may have valuable implications for educational method. There seem to be fluctuations in productive ability which are concealed in measurements of work over periods of time, say fifteen minutes in length. The fluctuations dealt with here are shown in graphic form in Figure 1. The work may be considered as a series of eight multiplication examples, illustrated by A in the figure. The work curve as a whole is represented by Line B. This curve may have beginning and end spurts and be affected in various ways and by various factors. Its common tendency may be considered an approximately straight line

with many variations overlaid upon it. However, when each segment of the task is analyzed and studied in detail, the data support Line C as representative of the facts within the type of work studied. Failures pile up progressively at the end of each segment. Difficulty may be thought of as a temporary lapse in, or degeneration of, ability within a segment of work, which disappears under the stimulus of attacking a *new* segment of work.

While there is no disposition to theorize or make applications beyond the data, some considerations seem attractive.

1. Attempts to make a detailed diagnosis of difficulty for guidance in remedial work from a test of the survey type are highly questionable. If a child does 9×8 correctly in the example $\begin{array}{r} 3786 \\ \times 849 \\ \hline \end{array}$ but does 8×8 incorrectly, we are not warranted in judging that he needs work on 8×8 but not on 9×8. The data amply justify the possibility, even the probability, that the differential of position in the series masks the real situation concerning his relative mastery of 8×8 and 9×8. Much effort is often spent in attempting detailed analysis of specific difficulty from data which utterly disregard the factor of position in a series. The results of such effort probably give a highly distorted picture of the facts.

2. If the work curve illustrated by Line C in Figure 1 more truly represents the facts than Line B, then certain changes in our instructions to pupils may be considered. Three of these are: (*a*) the possibility of instructing pupils to stop for a moment in the midst of work on an example involving many discrete computations in the hope of checkmating the temporary downward sweep of the work curve; (*b*) the possible wisdom of telling children the facts concerning learning so that, in this instance, they may be on their guard against a possibility of error at the end of examples; (*c*) the probable wisdom of refraining from reproval of children when they cease work momentarily. It is possible that they work by fits and starts because it is the best way to offset temporary lapses. Encouraging the habit of ceasing work for a few seconds during a series of related tasks may be the best teaching, even though many teachers now urge children "to work hard," "to pay attention," "to stop dawdling," and to do other similar things, just as if Line C in Figure 1 did not

represent characteristic behavior of the nervous systems of children.

3. In our thinking about children and their work curves, we may consider the possibility of temporary lapses of ability within a series of closely related facts, of the rhythmical nature of such lapses, of monotony or sustained effort as possible causes of such lapses, and of the stimulus of a new example—a fresh start, as it were—as a possible means of overcoming the lapse. Children may, as far as their organic ability to work is concerned, be more like the periodic swings of a long pendulum than like the steady and unwavering sound of a steam whistle. If such is the case, our directions to children concerning the minutiae of their work habits should be readjusted to use their organic tendencies rather than to resist or run counter to such preferences.

4. Mental "vacations" have long seemed prudent. They may need to be extended even to short work periods. Common practice suggests the periodicity of effort on several time levels. The nervous system itself provides very short "vacations" in the flutters of attentions. Thus, it is possible that our time should be filled with periods of work and vacation, as follows:

The year	11 months of work	1 month of vacation
The week	6 days of work	1 day of vacation
The day	8 hours of work	16 hours of vacation and sleep
The hour	Periodic vacations	A moot problem
The 15-minute unit	Periodic vacations	A moot problem
The second	Periodic vacations of attention	

Much of error (many factors of subject matter, age, motive, sex, previous fatigue, fluctuations in health, etc., being neglected for the present) may be the direct and protective outcome of a disregard for the periodicity of the output of energy during work periods of a few minutes' duration.

SHALL THE TEACHER TEACH ALL SUBJECTS?

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Specialization in teaching is not a recent departure in elementary-school organization. The division of the early Colonial schools into reading and writing schools was determined in part by the ability of the instructor to teach reading or writing and ciphering. Toward the close of the eighteenth century there came into prominence, particularly in the New England states, a type of school organization known as the "departmental school." The chief characteristic of the departmental organization was the vertical division of the course into a reading school and a writing school. Although the two departments were housed in the same building, each of the units had its own master, its own room and set of studies, and a corps of assistants. "The pupils attended each department in turn, changing from one school to the other at the end of each half-day session."[1] Reorganization of the upper grades according to a plan of departmental teaching, similar to the departmental work which is commonly found today in the upper grades, was started in New York City in 1900.[2] The advantages of the plan soon induced other schools to try it, and, before a decade had elapsed, studies were made to determine how extensive departmental teaching had become.[3] By 1913, 461 of the replies from 813 superintendents in cities with populations of 5,000 and over indicated the existence of departmental teaching.[4] The writer made a study of departmental teaching

[1] Frank Forest Bunker, *Reorganization of the Public School System*, p. 29. United States Bureau of Education Bulletin No. 8, 1916.

[2] Van Evrie Kilpatrick, *Departmental Teaching in Elementary Schools*, p. 5. New York: Macmillan Co., 1908.

[3] Charles S. Hartwell, "Promotion by Subject and Three-Year Courses," *School Review*, XV (March, 1907), 184–96.

[4] "Departmental Teaching in the Grades," *Report of the Commissioner of Education for the Year Ended June, 1913*, I, 139–41. Washington: Government Printing Office, 1913.

and reported in an earlier article[1] the extent to which specialization of teaching was used during the school year 1928–29. Some form of departmental teaching was found in 84 per cent of the eight-year and in 37 per cent of the six-year schools investigated, which were located in cities with populations of 2,500 to 25,000. The superintendents who co-operated in this study reported a total of 272 specific dates representing the years in which their school systems adopted the various plans for the assignment of teaching duties. Although no one particular plan of teacher specialization was adopted more frequently during the last four years than during any preceding similar interval, the general movement is progressing at a steady pace.

It is evident from the data given in the preceding paragraph that specialization in teaching has gained favor in elementary-school organization. Shall it be encouraged and extended? An answer to this question should probably be based on the evidence which has been gathered as to its success in the past with respect to the welfare of children and its administrative feasibility. The question whether each classroom teacher shall be held responsible for all instructional activities in a particular grade or whether varying degrees of specialization in teaching shall prevail in the elementary school must ultimately be subjected to these criteria. Let us examine briefly each of these considerations and then turn to other implications which grow out of this problem.

THE WELFARE OF CHILDREN

It may be assumed that any device which results in larger and better achievements (the word "achievements" being used in a broad sense) and which provides more adequately for the individual differences of children contributes to the welfare of children. At present, efforts to determine scientifically whether departmental teaching, as such, produces better results in terms of subject-matter achievements or other outcomes than does the traditional plan of teaching are conspicuously lacking. The advocates of the platoon school have been among the most ardent supporters of departmental

[1] Henry J. Otto, "Specialization in Teaching in the Elementary School," *Elementary School Journal*, XXXII (September, 1931), 17–21.

teaching. The studies which have been made to evaluate the platoon school have failed to show unquestioned superiority of that form of organization in producing subject-matter achievements.[1] A distinction should probably be made between the platoon type of organization and departmental teaching in the traditional school program. In some instances the educational offerings of these two plans of organization differ materially. Obviously the platoon school includes a variety of administrative practices, in addition to departmental teaching, which are not commonly found in the traditional type of organization. Hence, some would question whether studies of the platoon school are primarily evaluations of departmental teaching.

The adherents of the platoon school and the advocates of departmental teaching maintain that the values of this form of teaching accrue in the field of (as yet) unmeasured outcomes, such as the happiness of pupils. This contention, however, has little support from scientific evidence. It is possible that the proportions of these unmeasured outcomes secured in schools organized on the traditional plan but permeated with the newer educational theories are as great as those secured in the platoon schools or in schools using departmental teaching.

One objection which is frequently raised against departmental teaching is that it results in the disintegration rather than the integration of pupils' experiences. Bonser has called attention to a number of factors which tend to prevent the integration of pupil experiences,[2] among these being the separation of the tool subjects from the activities in which the tools are used, the periodic shifting of classes, the large number of pupils which each teacher must meet daily, and the fact that a number of different teachers are making

[1] *a*) Charles L. Spain, *The Platoon School:* A Study of the Adaptation of the Elementary School Organization to the Curriculum, chap. iv. New York: Macmillan Co., 1924.

b) Stuart A. Courtis, *The Gary Public Schools,* Measurement of Classroom Products. New York: General Education Board, 1919.

c) H. P. Shepherd, "Some Platoon School Results," *Platoon School,* IV (February, 1931), 176–80.

[2] Frederick G. Bonser, "Reasons for My Objections to the Platoon Plan," *Teachers College Record,* XXVII (December, 1925), 306–10.

demands on the same pupil. In some schools deliberate attempts to overcome some of these criticisms have resulted in projects that appear to be well co-ordinated and articulated.[1]

As the data given in the writer's previous article show,[2] some school systems have carried departmentalization into primary grades. It has usually been maintained that the problem of becoming adjusted to an entirely new experience and environment, such as is involved in starting to school, is extremely difficult for young children even when there is no departmental work in the lower grades and that specialization in teaching magnifies the difficulties sufficiently to make the practice undesirable. Specific evidence on this point is inadequate to warrant a final answer, but the experience in some schools seems to suggest that first- and second-grade pupils have little difficulty in making the adjustment to a partially departmentalized program.[3]

ADMINISTRATIVE FEASIBILITY OF DEPARTMENTAL ORGANIZATION

The administrative feasibility of departmental teaching may be considered from at least two points of view: costs and supervision. If a comparison is made between the traditional plan whereby the pupil receives all his instruction from one teacher and some plan of specialization in teaching which permits the regular teachers to be idle or to carry an underload of pupils while the special teachers are in charge of the classes, the former plan is obviously less expensive. Spain points out clearly the economies which may be effected in teachers' salaries by the type of departmentalization in operation in platoon schools as compared to the type found in non-platoon schools.[4] In a sixteen-section platoon school, for example, the average number of teachers employed is 18.48. In a partially departmentalized non-platoon school of similar size the average number of teachers employed is 20.16. The waste of teacher service is due to

[1] *a*) Elvira McDonald, "Correlation as It Was Carried Out in a Platoon School," *Educational Method*, X (October, 1930), 24–29.

b) Edgar H. Whitney, "Correlation and the Elementary School Curriculum," *Platoon School*, IV (November, 1930), 109–15.

[2] Henry J. Otto, *op. cit.*, p. 19.

[3] Charles L. Spain, *op. cit.*, p. 221.

[4] Charles L. Spain, *op. cit.*, pp. 193–212.

the employment of special teachers who are working while the regular teachers are idle or while they are carrying an underload of pupils. Doubtless departmental programs could be arranged which would not result in this waste in teacher service. In a small school teachers might exchange classes so that each teacher could teach one or more of her favorite subjects. In larger schools it might be possible to assign to each teacher only her favorite or special subject. With such arrangements salary costs ought not to differ unless teachers are paid more when they are permitted to teach their specialties.

It is also argued that departmental teaching makes for economies in equipment. The cost of equipment varies according to the community and the educational policy. If departmental teachers are supplied with only the meager equipment which in many instances was supplied to teachers under the "single-teacher" plan, the cost of equipment is likely to be less. The study by Shepherd shows that for platoon schools the majority of cities report a greater cost of equipment.[1] Here, again, the cost of equipment in platoon schools should probably not be compared with equipment costs in departmentalized non-platoon schools; some discrepancies may exist that are not taken into account.

EVALUATION BY PUPILS, TEACHERS, AND EDUCATORS

It is not clearly understood to what extent opinion should determine the administrative practices which should be incorporated in elementary-school organization. It would probably be unwise to insist on a form of organization which did not have the sympathetic support of the individuals who are to function in that organization. It may be of interest to refer briefly to an experience with departmental teaching in the elementary schools in Cleveland reported by Buckley.[2] During the second semester of 1928–29 a form of semi-departmentalization was tried in Grades III–VI, inclusive, in one school. At the end of the semester all the teachers voted against the plan, while 75 per cent of the pupils voted for it. In the room of the strongest teacher 90 per cent of the pupils voted against the

[1] H. P. Shepherd, *op. cit.*, p. 177.

[2] "Difficulties in Introducing Departmental Teaching," *Elementary School Journal*, XXX (April, 1930), 574–75.

plan. In the rooms of the weakest teachers almost 100 per cent of the pupils voted for it. It must be remembered that the teachers had had their training and experience under the older plan. The trial period may have been too short to permit of the necessary adjustments. In another study a questionnaire submitted to representative educators and classroom teachers revealed the fact that about 50 per cent of the former and 86 per cent of the latter favor departmentalization.[1] Most of the teachers included in the latter study had had some experience with departmental teaching. These teachers recorded eleven factors which they considered demerits of departmentalization and fifteen items which they considered advantages of the plan. The authors of the article last cited did not report the frequency with which each of the items was given by the teachers. Hence, it is difficult to know which appear to be the more pertinent of the problems involved.

IMPLICATIONS FOR TEACHER-TRAINING

If specialization in teaching is to be an accepted practice (and it appears to have become that) in elementary schools, should training programs be revised so as to prepare teachers better for teaching their chosen special subjects? To what extent will it be necessary to set up specialized courses to attain this end? Is the difference between special methods and general methods large enough to warrant such courses? Will a teacher who is thoroughly grounded in the principles of general method be able to transfer her knowledge of technique and to adapt it to her special subject? It is likely that a teacher who, because of her knowledge of children, of the educative processes, and of other factors, has exceptional ability in teaching one subject in the elementary school will also be an average or better-than-average teacher in other subjects. Conversely, a poor teacher is likely to be a poor teacher regardless of the subject which she chooses as her specialty. Buckley is of the belief that a teacher of mediocre ability can do an average piece of work in fourteen subjects more easily than she can do an outstanding piece of work in one subject.[2] Does this mean that training programs must be

[1] Evande Becker and Nell K. Gleason, "Departmentalization in the Intermediate Grades," *Elementary School Journal*, XXVIII (September, 1927), 62–66.

[2] "Difficulties in Introducing Departmental Teaching," *Elementary School Journal*, XXX (April, 1930), 574–75.

differentiated for teachers of different levels of ability and, consequently, that schools must have different plans of organization and different supervisory practices for teachers of different levels of ability?

IMPLICATIONS FOR SUPERVISION

Few data are at hand to indicate how supervisory practices under some form of departmentalization should differ from those employed if each teacher teaches all subjects. One's theories and philosophies of supervision and the training of teachers are important considerations. If adequate correlation and co-ordination of work are to be effected, will the need for supervision be greater under a departmental plan? Or may it be assumed that teachers will be competent to co-operate to bring about the desired correlation?[1] Buckley suggests that, as the elementary-school curriculum expands, the task of becoming an expert in the teaching of all subjects and skills is too great for most teachers.[2] As a result, supervisors of every description have been brought in to tell the teacher very definitely how each of the subjects should be taught, this fact making of the teacher a mere puppet and creating costs for supervision which reach tremendous proportions. His solution for the problem is teacher specialization. Apparently, he assumes that teachers trained to be specialists are competent to give instruction of the quality desired without detailed supervision. If this assumption is warranted, it is likely that school costs could be reduced by employing specially-trained subject teachers, even at salaries larger than those now paid, and by reducing the cost of supervision.

THE FUNCTION OF ORGANIZATION

One can hardly consider a question, such as that presented by departmental teaching, without giving some thought to the part in the educative processes which is played by organization. Some would lead us to believe that the quickest way to change from the ideals of a generation or two ago to the new movements and methods

[1] A suggestion for effecting correlation may be found in Charlotte Mabel Deyo, "The Technique of Planning in Co-operative Groups," *Educational Method*, X (April, 1931), 413–20.

[2] "Departmentalization of Teaching," *Elementary School Journal*, XXVI (November, 1925), 162–63.

in education is to change the form of organization.[1] Nothing could be more misleading. No doubt the reason why so many departures in organization have failed to produce the advantages on the basis of which theorists have succeeded in "selling" them to the public is that the new institution has been dominated by the old ideas. The innovations result in nothing more than traditional practices and points of view in new administrative units which bear a false glamor. It would seem that no educational unit can attain the aims and functions assigned to it unless those who carry the immediate responsibility for classroom instruction—the teachers—manifest in their thinking and in their classroom technique the basic theories and philosophies which were made the foundations of the institution.

It may be that, in the zeal for putting into practice the newer educational theories, inadequate attention has been given to the part which organization can play. Possibly all would agree that there are few instances in education or in other fields in which organization alone can secure the desired outcomes. Organization at best can only facilitate, can only create the setting by means of which the objectives may be attained. Some of the experimental studies of ability grouping present glaring illustrations of what happens when administrative practices, without the aid of properly adjusted teaching methods and materials, are expected to produce the desired results.[2] Many of the experiments in ability grouping have failed to take advantage of the opportunities which this administrative device made possible. Hence, in many cases the results have been negative or inconclusive. It is likely that in many instances the services which organization or administrative practices may render have been far from exhausted.

The advantages which it was hoped would accrue from specialization in teaching differ, no doubt, in various school systems. Possibly in all systems the hope was that better instruction would result. It may be questioned whether this hope has been fulfilled. Although

[1] Charles L. Spain, "The Platoon School and the Superintendent," *Teachers College Record*, XXVII (December, 1925), 293–305.

[2] Austin H. Turney, "The Status of Ability Grouping," *Educational Administration and Supervision*, XVII (January and February, 1931), 21–42, 110–27.

adequate data on this point are lacking, brief reference may be made to some facts presented by Spain.[1] As a part of his endeavor to evaluate the platoon schools in Detroit, he obtained the principals' ratings of teachers. The distribution of these ratings shows that the quality of instruction in platoon and non-platoon schools was almost equal. Of course, non-platoon schools in Detroit provide a certain amount of specialization in teaching.

A comparison of the administrative practices followed in six-year and eight-year elementary schools shows no outstanding differences.[2] Apparently, when the reorganization of the eight-year elementary school took place, resulting in a junior high school and a six-year elementary school, no changes were made in the organization of the first six grades. The administrative practices in the new six-year elementary school remained as they had been in the first six grades of the traditional eight-year unit. Reorganization, it seems, dealt with specific grades, and school executives have not taken advantage of the opportunity for effecting changes in the organization of the resulting six-year unit which the removal of the upper grades created. It is likely that in many systems the first six grades, having been relieved of the upper grades, could be administered on a plan entirely different from the plans now commonly followed. Material economies might thus be effected.

SUMMARY

Departmental teaching is an administrative practice which constitutes one aspect of school organization. During a period of less than thirty years it has been adopted by an increasing number of schools until at present it is found in 84 per cent of the eight-year and in 37 per cent of the six-year elementary schools included in the writer's study. It is practiced in all grades in the elementary school. To date only a very meager amount of data is available to demonstrate its values. Much of the evidence which is available is conflicting in its implications. Departmental teaching is not the only aspect of school organization and educational practice which has been

[1] Charles L. Spain, *The Platoon School*, p. 191. New York: Macmillan Co., 1924.

[2] Henry J. Otto, *op. cit.*, p. 20.

accepted on faith and which has received widespread acceptance with very few endeavors to demonstrate experimentally its value. Many other practices could be cited as illustrations. On what grounds, other than theory, could superintendents and principals justify to an inquiring public this procedure? It would seem opportune to suggest that in the case of departmental teaching, as well as in the case of certain other administrative practices, a halt be made in propaganda to permit an examination of the merits of the thing advocated.[1]

[1] Since this article was submitted for publication, an experimental study of departmental teaching has appeared, namely, J. R. Gerberich and C. E. Prall, "Departmental Organization versus Traditional Organization in the Intermediate Grades," *Elementary School Journal*, XXXI (May, 1931), 671–77.

A STUDY OF RETARDATION AND SPECIAL INSTRUCTION IN READING

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The study reported in this article was undertaken in the interests of the Committee on Retardation appointed by William J. O'Shea, superintendent of schools in New York City. The function of the committee was to find a way to decrease the amount of retardation in the public schools.

In May, 1930, all the children in Grades I A–IV B, inclusive, in Public School 208, Brooklyn, were given group tests of intelligence and reading attainment. The group intelligence tests used were the National Intelligence Tests; the Haggerty Intelligence Examination, Delta I; and the Detroit First-Grade Intelligence Test. The group tests of reading attainment selected were the Gates Primary Reading Test; the Gates Advanced Reading Test; the Haggerty Reading Examination, Sigma I; and the Thorndike-McCall Reading Scale. On the basis of their scores on the group intelligence tests, their scores on the tests of reading attainment, and the teachers' estimates of their ability, the children were grouped homogeneously for the September semester.

THE EXPERIMENTAL CLASSES

Four experimental groups of thirty children each were studied: two opportunity classes and two reading-disability classes. The reading classes were composed of normal and dull-normal children whose intelligence quotients on the group tests ranged from 85 to 115. When the children for the reading classes were selected, preference was given to the younger pupils. Practically the entire group of children who had been in the slow section of Grade I B in the previous semester was kept together as a reading-disability class, being called Extension Class I B. The second reading class had par-

tial reading disability and was called Class C. The children in this class were selected from the second and third grades. The opportunity classes were composed of dull and border-line children, whose intelligence quotients on the group tests ranged from 70 to 85. Those in Opportunity Class I were selected from the third and fourth grades and those in Opportunity Class II from the fourth and fifth grades. Many of these children also had reading disabilities, and they did poor work in other subjects as well. Some were retarded in school progress.

During the semester all the children in these four experimental classes were given individual psychological examinations. In case there was a large discrepancy between the intelligence quotient obtained in the group tests and that obtained in the individual test, a child was transferred from a reading class to an opportunity class or vice versa. For the most part, the four groups were kept fairly intact throughout the semester. At the end of the semester six children were restored to the grades from each of the reading classes and three others from the two opportunity classes.

Two additional experimental classes were organized in the second semester: an opportunity class and a reading-disability class. It was then possible to narrow the range of subject matter taught in each opportunity class. Opportunity Class II was composed of children in the second and third grades; Opportunity Class III, of children in the third and fourth grades; and Opportunity Class IV, of children in the fourth and fifth grades. With the exception of the three children who were promoted to the grades, the children who had been in Opportunity Class I during the first semester were promoted to Opportunity Class II or III, and those who had been in Opportunity Class II were promoted to Opportunity Class III or IV. The reading class, Extension Class I B, was carried along under the title Extension Class II A. A new class of children who had been in Grade I B during the previous semester was called Class C I, and those in the former reading class, Class C, were promoted to Class C II. An average of twenty-seven pupils were enrolled in each experimental class at the beginning of the second semester.

All the children in these six experimental classes had been given individual psychological examinations before the beginning of the

second semester. An effort was made to group the children homogeneously as to intelligence, grade placement, and reading disability. The intelligence-quotient distribution by classes is shown in Table I. Only the children who remained at the end of the second semester are included in this tabulation.

Group tests of reading achievement were given at the beginning of the second semester and again in May, 1931. The reading tests used were the Pressey First Grade Word Reading Test; the Gates

TABLE I

DISTRIBUTION OF 157* PUPILS IN SIX EXPERIMENTAL CLASSES ACCORDING TO INTELLIGENCE QUOTIENTS

INTELLIGENCE QUOTIENT	NUMBER OF PUPILS					
	Class C I	Extension Class II A	Class C II	Opportunity Class II	Opportunity Class III	Opportunity Class IV
70–74	0	0	0	1	1	2
75–79	0	0	0	16	9	14
80–84	4	4	6	7	5	5
85–89	6	2	7	0	9	6
90–94	4	8	6	0	0	0
95–99	5	5	3	0	0	0
100–104	5	4	5	0	0	0
105–109	2	4	1	0	0	0
110–114	1	0	0	0	0	0
Total	27	27	28	24	24	27

* Two children were absent at the time of the psychological examination.

Primary Reading Test; the Haggerty Reading Examination, Sigma I; and the Thorndike-McCall Reading Scale. The number of semesters in reading achievement gained during the second semester by each of the six experimental classes is given in Table II.

In the two reading classes, Class C I and Extension Class II A, the average gain was nine-tenths of a semester, as shown in Table III, while each of the other four experimental classes gained more than a semester. A possible explanation of this result is that younger children, many of whom were not retarded, were in Class C I and Extension Class II A. Older children tend to gain more rapidly, once they begin to progress.

The average gains in reading achievement made by the ninety-three children who were in the experimental classes during both

semesters were .80 of a term during the first semester and 1.33 terms during the second semester. The average gains in reading achievement made by the sixty-three children who were in the regular grades during the first semester and in the experimental classes dur-

TABLE II

GAINS IN READING ACHIEVEMENT MADE DURING SECOND SEMESTER BY 159 PUPILS IN SIX EXPERIMENTAL CLASSES

NUMBER OF SEMESTERS GAINED	NUMBER OF PUPILS					
	Class C I	Extension Class II A	Class C II	Opportunity Class II	Opportunity Class III	Opportunity Class IV
0.0	1	3	4	3	4	6
0.5	7	6	6	0	0	0
1.0	16	15	8	5	2	2
1.5	1	0	0	0	0	0
2.0	2	2	3	5	9	5
3.0	0	1	5	6	6	8
4.0	0	0	2	3	3	3
5.0	0	0	0	2	1	4

TABLE III

AVERAGE GAIN IN READING ACHIEVEMENT MADE DURING SECOND SEMESTER BY EACH OF SIX EXPERIMENTAL CLASSES

Class	Number of Semesters Gained
C I	0.90
Extension II A	0.90
C II	1.43
Opportunity II	1.63
Opportunity III	1.60
Opportunity IV	1.57

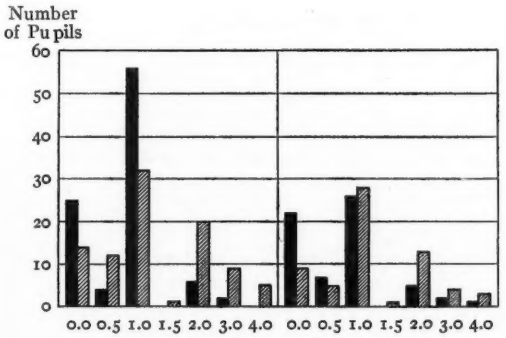
ing the second semester were .83 of a term during the first semester and 1.33 terms during the second semester. The distribution of the gains is given in Table IV. The same data are graphically presented in Figure 1. From these data it may be inferred that children who have reading difficulties progress more rapidly when they are given special instruction in small groups than when they work in the regular grades. It may also be inferred that, once they have begun to

TABLE IV

DISTRIBUTION OF NINETY-THREE PUPILS WHO WERE IN EXPERIMENTAL CLASSES DURING TWO SEMESTERS AND OF SIXTY-THREE CHILDREN WHO WERE IN REGULAR CLASSES DURING FIRST SEMESTER AND IN EXPERIMENTAL CLASSES DURING SECOND SEMESTER ACCORDING TO GAINS IN READING ACHIEVEMENT IN EACH SEMESTER*

NUMBER OF SEMESTERS GAINED	PUPILS IN EXPERIMENTAL CLASSES DURING TWO SEMESTERS		PUPILS IN REGULAR CLASS FIRST SEMESTER AND IN EXPERIMENTAL CLASS SECOND SEMESTER	
	First Semester	Second Semester	First Semester	Second Semester
0.0	25	14	22	9
0.5	4	12	7	5
1.0	56	32	26	28
1.5	0	1	0	1
2.0	6	20	5	13
3.0	2	9	2	4
4.0	0	5	1	3
Total	93	93	63	63

* The gains of three pupils could not be ascertained because of the incompleteness of their records during the first semester, these pupils having been transferred from other schools.



Number of Semesters Gained by Ninety-three Pupils in Experimental Classes during Two Semesters.

Number of Semesters Gained by Sixty-three Pupils in Experimental Classes during Second Semester Only.

FIG. 1.—Gains in reading attainment made in first semester (black bars) and in second semester (shaded bars) by (1) ninety-three pupils who were in experimental classes during first and second semesters and (2) sixty-three pupils who were in regular classes during first semester and in experimental classes during second semester.

progress, the gain within a given time will be greater when the special instruction is continued than the gain made when special instruction is lacking.

With one exception, the children who were promoted from the experimental classes at the end of the first semester were able to maintain themselves in the grades. At the end of the second semester forty-six other children were restored to the grades. Only those children were promoted to the grades who were ready to do the work of the grade in which they would have been placed if they had been promoted regularly. All others were promoted to higher experimental classes. Fifty-nine were promoted to the next higher experimental class, forty-four to the second higher class, and five to the third higher class. In other words, 38 per cent of the children in the experimental classes were promoted to the next higher experimental class, 32 per cent to the second or third higher class (thus gaining two or three semesters), and 30 per cent were restored to the grade in which they would have been placed if they had been promoted regularly.[1]

THE CONTROL GROUP

A control group was set up at Public School 183, Brooklyn, which is in the same school district as Public School 208. In reading disability the slow section in Grade II A in Public School 183 closely corresponded with the experimental Extension Class II A. Other pupils exhibiting total and partial reading disability were selected from the first four grades at Public School 183. There were eighty children in the control group. Individual psychological examinations were given to all the children in the control group. They were also given tests of reading achievement both at the beginning of the second semester and in May, 1931. The reading tests were the same as those used in the experimental classes. The testing program was carried out at both schools during the same week.

The children in the control group were given no special instruction in reading. Those in the experimental group were given special instruction in reading, the new Gates method of teaching reading be-

[1] Five children were transferred to other schools during the second semester.

ing used. In the three reading-disability classes the workbooks devised by Gates were used. In the opportunity classes the method was adapted for older children.

When the eighty children from the experimental classes at Public School 208 were selected to pair with the eighty children in the control group, an effort was made (1) to have the intelligence quotients as nearly equal as possible and (2) to pair children of the same chronological ages. The second condition could not be met in all cases. The average age of the control group was a little less than that of the experimental group.

TABLE V

GAINS IN READING ATTAINMENT MADE BY CONTROL AND EXPERIMENTAL GROUPS

Number of Semesters Gained	Number of Pupils	
	Control Group*	Experimental Group†
0.0	61	9
0.5	5	16
1.0	9	38
1.5	1	2
2.0	4	7
3.0	0	6
4.0	0	2

* The average gain is 0.25 of a semester.
† The average gain is 1.13 semesters.

A comparison of the gains in reading achievement made by the eighty pairs of children is shown in Table V, and the same data are graphically presented in Figure 2. As is shown, sixty-one children in the control group made no gain in reading achievement during the semester. Of the nineteen remaining children, only fourteen gained as much as a semester in reading achievement. Such children become retarded during their school progress from inability to read rather than from inability to learn.

There were several factors which might have had some influence on the progress of the control and experimental groups: (1) Public School 183 is located in the heart of Brownsville, a Jewish community not of the highest type. Public School 208 is located in a good

residential district. About 60 per cent of the children in the latter school are Jewish, and about 20 per cent are Italian. One-third of the children in the experimental classes were Italian; one-fifth, Jewish; and the others, of English-speaking parentage. However, 40 per cent of the children in the experimental classes who made no gains in reading attainment during the second semester were Italian. (2) There was practically no school retardation among the children in the control group. Perhaps if they had been promoted less regularly, their reading disability would not have been so great. Many of the children in the experimental classes had been retarded more than one semester. (3) The children in the experimental classes were grouped homogeneously as to intelligence and reading disability. With the exception of the children in the slow section in Grade II A at Public School 183, only three or four children of the control group were found in any one section.

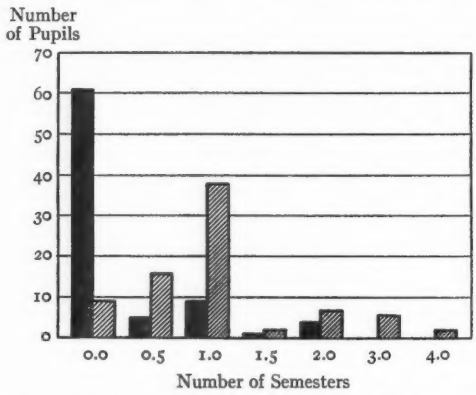


FIG. 2.—Number of semesters in reading attainment gained by control group (black bars) and experimental group (shaded bars).

CONCLUSION

That special instruction given children in small groups classified homogeneously as to intelligence and reading disability is a successful method of decreasing existing retardation and preventing further

retardation is shown by the following facts: (1) Fourteen children (12 per cent) promoted from the experimental classes at the end of the first semester were able to maintain themselves in the grades. (2) Forty-six children in the experimental classes (30 per cent) were prepared at the end of the second semester to enter the grade in which they would have been placed if they had been promoted regularly. (3) Forty-four children (29 per cent), although remaining in the experimental classes for another semester, were promoted to the second higher class, and five children (3 per cent) were promoted to the third higher class, the amount of their retardation being thus decreased. (4) More than three-fourths of the children in the control group at Public School 183, Brooklyn, for whom no special instruction was provided, made no gains in reading during the entire semester.

WHAT SIZE CLASS?

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Many studies and experiments have been made in an effort to determine the best size of class, but the question has not yet been settled. The investigations have included grades from the elementary school to the university. The purpose of this discussion is not to review the findings of these studies in detail but to give only a few significant facts concerning the findings. Their importance lies in the fact that the weight of evidence tends to show that the work done by pupils in large classes is as good as, or better than, the work done by pupils in small classes. In spite of this evidence, teachers and school administrators in general have not accepted the findings as final. In fact, efforts are being made to provide smaller classes. The reason for this attitude is no doubt the feeling that the studies have not presented true evidence—that not all the factors have been under control.

One point at which most of the studies have failed is the differentiation of method in small and large classes. No doubt, the teaching methods used in the small classes were in most cases the same as those used in the large classes. In fact, in some of the studies teachers of large and small classes were directed to use the same methods. We are led to believe that the group method of instruction was used in both the small and large classes. The group method consists largely in assigning lessons, often consisting of a certain number of pages in the textbook, and in asking the pupils questions to see whether the assignment has been studied. When this type of teaching is used, small classes have no advantage over large classes.

Another consideration which may have affected the results of the studies is the possibility that certain types of teaching may interfere with, rather than help, learning. When the pupil is making progress in learning, efforts on the part of the teacher to direct the learning process may interfere with progress. Thus, the teacher of a

small class may be able to interfere with learning to a greater extent than the teacher of a large class.

Studies to determine the influence of class size might have shown entirely different results if the methods of teaching had been adapted to the size of the class. In a few experiments the methods used in the small classes have been different from those used in the large classes, but these studies are too limited to be conclusive. In a small class individual needs and abilities can certainly be discovered more easily than in a large class. The wise teacher can use this knowledge in directing the pupil and in helping him to overcome difficulties. The teacher will not interfere when the pupil is making progress; but, when he has encountered a difficulty which has stopped progress, she will give whatever assistance is needed. Certainly a teacher can follow such a procedure better in a small class than in a large class.

The present tendency in size of classes is to have the largest classes in the elementary school, smaller classes in the junior high school, and still smaller classes in the senior high school. In some of the large cities the average size of classes is about forty-five in the elementary school, forty in junior high school, and thirty-five in senior high school. No one seems to be able to give any better reason for this practice than that of the physical size of the pupils. The smaller the pupils, the greater the number that can be placed in a given space.

Since there is not sufficient evidence to settle the question of class size definitely, what are some of the other considerations that will help toward a solution of the problem? Let us review briefly the learning activities of the pupil and the part the teacher has to play in directing these activities.

The teacher cannot learn for the pupil; the pupil must do his own learning. The pupil learns through making responses. A response may be oral, or it may be only mental. The teacher should not solve the pupil's problems but should point out ways and means that will enable him to solve his own problems. All learning is individual. The work of the teacher includes the task of making the objectives clear to the learner. The pupil must know where he is going in order to reach his goal. The teacher should point out the way; she should place materials before the pupil which will enable him to acquire the

skills, attitudes, or understandings which have been set up as goals; and she should give direction and assistance when obstacles are encountered. She must also provide measuring materials and devices by which she and the pupil can be sure that the goal has been reached. It is clear that all this work is individual. However, an individual pupil can often work for long periods at a time without requiring attention from the teacher. The greater the ability of the pupils to study independently, the larger numbers the teacher can handle. With the ever increasing amount of work materials and measuring materials available, the teacher can be left free to do more and more individual teaching.

It is obvious that pupils who have never been to school do not know how to study or how to behave in a group. Consequently, both the teaching problem and the disciplinary problem are important in the primary grades. It is here that the pupil needs individual attention in the greatest degree. He must learn to study and to adjust himself to life in a group. If the teaching is well done in the early grades, the problems of study habits and behavior will become fewer and fewer as the pupils progress through school. As the pupils learn how to study, the teacher can teach larger and larger classes. If this argument is valid, our school system needs turning upside down as far as class size is concerned. At present the largest classes are in the lower grades of the elementary school. The smallest classes should be in the first grade, where the learner requires the greatest amount of individual attention, and the classes should become larger as the pupils gain ability in study and self-direction.

Attempts to teach large classes in high school have shown that in some subjects classes of one hundred pupils can be taught effectively. This result is accomplished through the use of definite assignments of work and a system by which pupils help in checking the work of individual members of the class. Perhaps the introduction of the proposed system should begin with classes of thirty in the first grade and progress to classes of fifty in senior high school. After pupils have had the additional training made possible in the lower grades and when an abundance of work materials and testing devices have been provided, even larger classes can be organized in the higher grades.

Educational Writings

REVIEWS AND BOOK NOTES

Education and the social order.—One of the keenest analysts of social conditions and of new movements in education is William C. Bagley, of Teachers College, Columbia University. He was one of the most vigorous critics of intelligence tests, as evidenced by the famous address on democracy and the intelligence quotient and by his book *Determinism in Education*. In his latest book,[1] which is a collection of eight recent papers and addresses, the rôle of critic is continued.

The first paper presents two serious problems confronting American education: (1) an industrial age accompanied by technological unemployment and increased leisure and (2) heavy crime ratios, rising curves of divorce, and other evidences of social maladjustment caused, at least in part, by a national tradition of individualism and material prosperity. The second paper lists the handicaps of character education, such as the mobility of the population, diverse standards of conduct represented by a conglomerate population, a national tradition of individualism, and material prosperity. The third paper is an answer to Professor T. Livingston Scholtz's criticism of the second paper. The fourth paper criticizes the tendency in curriculum-making to base selection of subject matter on a narrow interpretation of community or social needs. The author points to the stability of nations with universal and well-established elementary-school systems as sufficient reason for refusing to scrap an organized program in favor of a curriculum developed spontaneously on the basis of the child's "felt needs" and "purposes." The fifth paper reveals two fallacies in the progressive-education movement: (1) the notion that freedom is both the means and the end of education and (2) confusion of the work and the play attitudes. The sixth paper maintains that disciplined freedom is an outstanding objective of the educative process; that true freedom is always a conquest, never a gift; and that externally imposed discipline is mentally the basis of self-discipline. The seventh paper, "Emergent Idealism," discusses three levels of mental behavior: (1) specific habits and meanings formed by the conditioning process, (2) development of general meanings or concepts, and (3) social-moral behavior involving moral judgment, ideals, or "conscience." The last paper,

[1] William C. Bagley, *Education, Crime, and Social Progress*. New York: Macmillan Co., 1931. Pp. xvi+150. $1.20.

"Education for Adaptability," reviews the evidence relating to transfer of training and finds reasons to believe that education may raise the intellectual level of the masses to a point at which adaptation to a great variety of social situations is possible.

The author presents a considerable body of data to substantiate his analyses. He recognizes that in dealing with social problems it is difficult to determine the extent to which given factors are causal. For example, stable government may produce a good school system or vice versa. He is a vigorous critic of the "soft pedagogy" which is prevalent today in many quarters. In this series of papers Professor Bagley is his usual forceful self in presenting a virile, dynamic analysis of certain major problems in American education.

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Does homogeneous grouping make teaching easier?—The past year has witnessed a revival of interest in the value of homogeneous grouping. Numerous attacks have been made on the procedure, some of which seem to indicate very decided opinions and bias. A recent study by Burr[1] is a careful attempt to evaluate homogeneous grouping on the basis of objective evidence. The author has adhered to one line of attack: the extent to which homogeneous grouping reduces variability in achievement. Throughout his treatment he has obviously realized the limitations of certain statistical techniques employed. It is a pleasure to read such frank statements of the limitations of technique as the following: "The writer realizes that the total range of distribution is a very unreliable statistical measure" (p. 27). "A study of the degree of overlapping of achievement of homogeneous groups in terms of total range does not in itself prove value or lack of value in the practice of homogeneous grouping any more than a study of difference of means does" (p. 50).

Utilizing data on 3,400 children in Grades IVB–VIA located in five cities which practiced homogeneous grouping, Burr studied the overlapping of the achievement of X, Y, and Z groups in various fields of subject matter. His method was, first, to compare smoothed curves plotted from achievement-test scores and, second, to compare the percentage of overlapping of the total range of ability found in the homogeneous groups. He then divided the actual groups into certain hypothetical groups made non-overlapping in a single subject. These hypothetical non-overlapping groups were then studied for overlapping in other subjects. Profile charts were used to study the individual variations of pupils divided into three groups according to average educational age. In all these comparisons Burr found marked overlapping of the range of achievement. In some cases the ranges of X and Z groups were nearly equal. On the average the percentage of overlapping of the range of achievement of the groups was 78.

[1] Marvin Y. Burr, *A Study of Homogeneous Grouping in Terms of Individual Variations and the Teaching Problem.* Teachers College Contributions to Education, No. 457. New York: Teachers College, Columbia University, 1931. Pp. x+70. $1.50.

Finally, and most important of all for interpretive purposes, the need for individual adjustment within homogeneous and within mixed groups was compared by setting up an arbitrary limit within which adjustment was not necessary. For this purpose it was assumed that a class which "did not represent a total range of achievement in the standard subjects of more than two grades or two years" (p. 52) would present small problems of adjustment. In arithmetic a range of one year was used. Any pupil falling outside this range was considered to be a case for adjustment. If the pupil fell outside but within a range of one year (or grade), the difficulty of adjustment was considered as one unit; two years outside was counted as two units of difficulty of adjustment. Such a method is probably superior to the comparison either of means or ranges of achievement in homogeneous and heterogeneous groups. Using data from three cities for comparing homogeneous and heterogeneous groups averaging 31.2 pupils to a group, Burr found that in the homogeneous groups there were, on the average, 10.4 pupils requiring adjustment and in the heterogeneous groups 13.5; in terms of difficulty the homogeneous groups averaged 13.6 and the heterogeneous groups 18.8.

Burr's own interpretation of his data is not particularly favorable to homogeneous grouping. It is no criticism of this excellent piece of work to point out the following possible alternative interpretations.

First, the use of standard scores for combining X, Y, or Z group scores from different schools hides the fact that the average or general achievement in one Z group might be far inferior to that in another; hence the teaching problems involved would not be apparent. The statement that "some pupils in a Z section had as high a sigma score as any X pupil in either school" (p. 13) needs to be carefully interpreted. This situation could exist when the achievement in terms of actual score differed greatly. For anyone to interpret this as meaning comparable achievement would be erroneous.

Second, Burr's data, in the reviewer's judgment, present a strong justification for ability grouping. He has figure after figure showing entirely different teaching problems. In the last analysis, the teaching problem is very inadequately pictured by comparison of range. Burr has emphasized the unreliability of the range. One might add that it is probably the most unreliable statistical measure which could be employed. If, for instance, reference is made to Figure 9 in this book, it will be seen that the ranges do not markedly differ but that the number of cases included in the A group which lie *entirely outside, and to the right of,* the B group is very large. This is a far more valid interpretation of the teaching problem than a comparison of ranges.

Third, the most valid statistical index of the difference in the teaching problem to be derived from this study is a comparison of the average difficulty index of homogeneous grouping and heterogeneous grouping. When these indices are compared, 13.6 for the homogeneous groups and 18.8 for the mixed groups, it is apparent that the teaching situation in the heterogeneous group is nearly 40

per cent more difficult than that in the homogeneous group. In view of the scrambled bases for grouping employed, one can only say that Burr has shown more conclusively than anyone else so far that ability grouping is a boon to teaching.

AUSTIN H. TURNEY

UNIVERSITY OF KANSAS

The biological bases of education.—A book[1] undertaking to point out the biological facts which condition education is not an ordinary textbook of biology with the term "educational" tacked on its title. It is a careful selection of biological materials that have a bearing, in the authors' estimation, on important questions which the modern educator is forced to meet. This statement does not imply that he who reads the book will find the answers to all his educational perplexities. He may wonder at times what educational superstructures are founded on some of the biology presented, as, for instance, the detailed structure of the nervous system. The book is heavy with facts, and the lay reader, at least, would welcome more ample indication of their educational significance. However, for the most part, the reader will find a wealth of recently discovered biological data that plainly limit and modify educational effort.

Such biological factors as the endocrines that influence normal growth and development, the diseases that play havoc with school children, the physical defects that retard and often nullify instructional endeavor, and the laws of inheritance are a few of the many topics that are very well presented. The reader, on completing the book, should have fairly lucid notions of the normal functioning of the human machine and of its origin and development.

While one might wish for a fuller discussion of some topics, such as the inheritance of acquired modifications (since education is one such) and the nervous defects of children, the volume, on the whole, is highly commendable.

There is a list of references at the close of each chapter so that the person who wishes to read more extensively on a topic of special interest may know some of the good books. The numerous discoveries cited are usually credited to the men who made them, a desirable feature, though exact references to the literature are not made—an omission probably made necessary in the interests of brevity.

E. R. DOWNING

A book on the non-instructional problems of the teacher.—*The Commonwealth Teacher-Training Study* is bearing fruit. The splendid and thorough analyses made by Charters and Waples in that well-known investigation revealed that teachers in training need help with a great many problems not touched on by the usual run of books on methods. There has been a consequent recent tendency to include these additional elements in the teacher-training program. A book

[1] Otis W. Caldwell, Charles Edward Skinner, and J. Winfield Tietz, *Biological Foundations of Education.* Boston: Ginn & Co., 1931. Pp. viii+534. $2.72.

by Davis[1] is one of three which have recently appeared, all of which have somewhat similar aims. The other two are Marsh's *The Teacher outside the School* and Pulliam's *Extra-Instructional Activities of the Teacher*.

The precise measurement of the degree of indebtedness of Davis to *The Commonwealth Teacher-Training Study* is difficult to make, although much of it is readily apparent and the author makes grateful acknowledgment in his Foreword.

The fifteen chapters deal with the teacher in relation to the school board, the community, administration, supervision, the teacher himself, the pupils, parents, colleagues, auxiliary school officers, the profession, professional literature, and statistics. The volume is systematically organized as a textbook for teacher-training classes and includes well-selected exercises and references at the ends of chapters.

A few illustrations of the type of material included will be helpful. Teachers are warned against incurring a postage-due expense in sending a too-fat letter of application for a job. They are advised to exercise academic freedom within reason, to identify themselves with the community, to avoid shocking the conservative citizens by insisting in a rural community on certain unconventional behavior which might go unnoticed in a large city. An effort is made to bring teachers to appreciate the point of view of the board and the public with respect to salaries, tenure, leaves of absence, retirement, etc., and to be reasonable and co-operative in working these out. Teachers are advised to be sympathetic and considerate when the supervisor, having taken a class for a time to demonstrate some point of instructional technique, gets "in a jam" and suffers much personal embarrassment because the lesson does not work out as he wished it to. The teacher traits which pupils like and dislike are presented, as are also the pupils' traits and actions with regard to which parents are anxious to have the teacher report.

Further illustrations would be unnecessary. In a word, it may be said that Davis has manufactured a rather substantial body of methodology for that sphere of teacher activity that has been rather generally neglected by the methodologist. The task he set himself was a worthy one, and his execution of it is admirable.

C. C. CRAWFORD

UNIVERSITY OF SOUTHERN CALIFORNIA

Re-education following encephalitis.—The purpose of a recent book[2] is to present an account of the treatment given to a number of children whose characters had been damaged by encephalitis and to bring attention to the occurrence and

[1] Sheldon Emmor Davis, *The Teacher's Relationships*. New York: Macmillan Co., 1930. Pp. xiv+416. $1.80.

[2] Earl D. Bond and Kenneth E. Appel, *The Treatment of Behavior Disorders Following Encephalitis:* An Experiment in Re-Education. New York: Commonwealth Fund, 1931. Pp. 164. $1.75.

treatment of behavior difficulties that may follow any kind of mild brain injury. Classes for post-encephalitic children were established at the Department for Mental and Nervous Diseases of the Pennsylvania Hospital in December, 1924, and living quarters were set aside for the group under investigation. This group consisted of sixty-two children, twelve years old and younger, who were received at the hospital between December, 1924, and January, 1930. Of these, forty-eight were post-encephalitic cases, and fourteen showed behavior disturbances similar to those frequently found in post-encephalitics. These latter cases, however, had no history of encephalitis and served as experimental "controls." The investigation endeavored (1) to determine the value of bringing these children together under psychiatric guidance and (2) to study the relation between the behavior disorders characteristic of the post-encephalitic and the similar, less acute emotional problems in the home and at school.

After outlining the general symptoms and sequelae of the disease in question, the authors, both physicians, present typical case reports to show the nature of the problem in its sociological and humanitarian aspects. Thence they proceed to describe the development of their special school organization and the point of view directing the educational policies and procedures adopted. Results are discussed mainly in terms of specific cases, but the brief analysis of the facts pertaining to the group shows an encouraging degree of success in terms of improved social adjustment. Some suggestions are given regarding wider application of the method to community organization in the treatment of similar behavior problems.

It is difficult to evaluate this work save in terms of high commendation. The nature of the experiment, the educational approach carried out in a true spirit of adventure, the gratifying results—all speak for themselves. They represent a much-needed and, happily, growing optimism on the part of research workers in mental hygiene, which views even the most baffling problems of human adjustment in terms of long-distance, broad, educational policies. As the authors themselves emphasize, this point of view involves the formulation of a philosophy that will serve to direct the personal influences vital to therapeutic and preventive programs, and at the same time it involves the development of a method that will enable us to check and revise the philosophy as we proceed.

It is in connection with the point of view behind the method that, in the opinion of the reviewer, the greatest limitation of the book lies. Starting with a healthy open-mindedness with respect to apparently conflicting psychological doctrines, the authors endeavor to maintain a pragmatic outlook—an endeavor which thus results inevitably in piecemeal eclecticism. They frankly state that it would be "unprofitable and premature" to pursue the policy of developing any new theory; and, by avoiding the basic interpretations of behavior and learning, they limit the value of their work. Results in terms of service performed are valuable, but the more far-reaching effect of so excellent a piece of research would be the degree to which the experiment led to a clarification of the approach to child behavior. Human adjustment is always complex, and spe-

cific situations can never be evaluated in terms of mere formulas. Consequently, the vital problem in training teachers and parents is the development of a point of view that fosters consistency in interpreting behavior incidents. The specific nature of the evaluation given by the authors is a good basis for more general interpretation. If more attention had been paid to the reasons for their failures as compared with the successful aspects of their technique, many of the inconsistencies in their philosophy would have been thrown into relief. The formulation of a theory of social adjustment is never premature. It is essential to progress at all stages. Possibly we may expect an extension of the authors' interpretation along these lines in the near future.

W. LINE

UNIVERSITY OF TORONTO

A handbook for the parents of young children.—Writers of textbooks concerning the care of young children have limited themselves, in the main, to a consideration of either the physical or psychological phases of the problem in spite of the ever-swelling chorus, "The whole child must be dealt with." Miss Langdon, aware of the fact that parents have received little assistance in the difficult task of viewing their children's problems from many angles, has attempted in a four-hundred-page volume[1] to give the needed aid.

The first section of her book is given over to a discussion of factors influencing the baby's welfare during its prenatal life and a discussion of the details of its care during the first year of independent existence. Hundreds of issues, trivial and major, are dealt with—issues such as the diet of the mother during pregnancy, her mental adjustments, the problems of physical hygiene, the child's layette, the techniques of dressing and bathing the infant and of carrying, lifting, nursing, feeding, and weaning it. The second section of the book centers on the routines of eating, sleeping, and going to the toilet and on the subject of play. These are all considered from the point of view of children of different ages. Section III offers counsel on the complex problems of integrating educational experiences, that is, of teaching the child to live happily with other people. The book is concluded with an annotated bibliography of about ten pages and a list of organizations and agencies which may serve the parent directly or afford guidance through publications.

The book may be characterized as practical, popular in tone, optimistic, enthusiastic, and descriptive rather than deeply analytical. The author is writing for parents and with an intimate knowledge of the major difficulties in the rearing of children that arise daily in the average home. To suggest the detail with which she covers her field, the reviewer would call attention to her discussion of such matters as the materials desirable for making an infant's toilet proceed safely and smoothly, devices for adding to the mother's comfort when

[1] Grace Langdon, *Home Guidance for Young Children:* A Parents' Handbook. New York: John Day Co., 1931. Pp. xviii+406.

she is nursing the infant, ways of keeping the toddler from uncovering himself at night, methods of adapting adult equipment to the child's needs, etc.

Advice the author gives simply, and she places little emphasis on controversial issues, even in the practical field. The author has seemingly conceived her task as one of evaluating present evidence and of passing on to parents, with few "if's" and "and's," whatever appears to her to be most reasonable. No mention, for example, is made of the controversy concerning the nature of the emotional excitants of the new-born. In this matter Watson is followed implicitly. In the case of many issues over which argument has been particularly heated, the author dodges responsibility and suggests that the local doctor, dentist, or psychiatrist be consulted. One winces a bit when the local dentist is made the court of appeal on such questions as the relative merits of rotary motion and horizontal motion in brushing teeth or the value of brushing the teeth of young children at all. On one of the much-debated subjects in the field of child care—the sleep needs of children—the author states the nature of the disagreement and temporarily refrains from specific recommendations, only to succumb later to the dogmatizing she valiantly tried to avoid by stating that the three-year-old child needs fourteen to sixteen hours of sleep a day.

Since the approach of the book has been characterized as descriptive, and expository only in a practical sense, one should not be surprised that such a topic as that of the nature and *modus operandi* of the various vitamins is omitted, that few of the techniques treated are analyzed from the point of view of the more fundamental principles of learning, and that the complexities of the heredity-environment problem receive no mention.

That the author is optimistic may be inferred from the fact that the intricacies of the means of altering the behavior and attitudes of adults are seldom faced. The latter are merely told what they ought to be. It is assumed that they will be able to mold themselves at will. Enthusiasm is evidenced by an abundance of exclamation points and by the piling-up of rhetorical questions and descriptive details until many sentences cover from one-third to one-half a page. This trait tends to make the style not only enumerative but repetitious at times both in content and in phrase. Evaluated, however, from the point of view of the needs of the lay reader, these qualities may, in general, be merits.

In summary, let it be said that Miss Langdon's book should make an appeal and render valuable service to the average parent. With its wealth of practical detail, it should silence the complaint that the specialist refuses to grapple with the difficulties that arise in daily living.

HELEN L. KOCH

A textbook in American history for the upper grades.—A recently published textbook in American history[1] constitutes a notable achievement in textbook

[1] Mabel B. Casner and Ralph Henry Gabriel, *Exploring American History*. New York: Harcourt, Brace & Co., 1931. Pp. xx+788+26. $1.96.

construction. It is the final product of nearly ten years of experimentation, during which the materials and pupil activities were selected by a trial-and-error process and the entire content was subjected to expert criticism.

The narrative covers the traditional ground of American history adequately and, as far as one can judge by reading, in a manner interesting to junior high school pupils. A highly successful attempt has been made to keep the historical concepts in line with modern scholarship, and some traditional interpretations are commendably absent. The vocabulary has been checked against the usual standards, and definite provision has been made for increasing the pupil's command of words. Source extracts are worked into the narrative intelligently. The illustrations, most of which are taken from the *Pageant of America*, the *Chronicles of America Photoplays*, and pupil-construction projects, are on the whole excellent. The maps are picture maps of high quality. The most novel feature is the inclusion of contemporary songs for class singing.

Probably the outstanding feature of the book is the rich catalogue of concrete activities as the principal teaching aid. No other textbook carries such inclusive suggestions for laboratory work in this field. Although some might disagree with the value of specific suggestions, the range is catholic, and the quality of many activities is unquestionably high. These numerous teaching aids, exclusive of illustrations, take up about 20 per cent of the space, but a large page in a large book gives room for an unusually long narrative.

The organization is generally one of topics within chronological periods, although a more definite topical organization appears in a few instances. The distribution of emphasis is in line with good current practice. Military history receives less than 17 per cent of the space, and economic history and social history receive almost 40 per cent. The history of the country before 1783 receives roughly 35 per cent of the space; from 1783 to 1865, 36 per cent; since 1865, 28 per cent. The proportion given the last period is less than some teachers like, and to them the twenty-three pages devoted to politics in this period will seem inadequate.

One finds little to object to in the book, and that little unimportant. The otherwise excellent maps might illustrate ideas more graphically if fewer distracting illustrations appeared on them. A small proportion of the pictures seem to have little value, being poor without being contemporary. The point might be raised that more mature history can be taught to seventh- and eighth-grade pupils than this book presents, but this criticism applies to almost every textbook in the field, and to most of them much more than to the book under review. There are few instances of the omission of important elements, the most notable being the failure to bring the Pan-American Union into the account of the relations of the United States and Latin America.

In every sense, *Exploring American History* is a notable textbook, soundly constructed, beautifully bound, and practicably useful.

ELMER ELLIS

UNIVERSITY OF MISSOURI

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